

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM _____ TO _____

Commission File Number 001-39219

Revolution Medicines, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware
(State or other jurisdiction of incorporation or organization)
700 Saginaw Drive
Redwood City, CA
(Address of principal executive offices)

47-2029180
(I.R.S. Employer Identification No.)

94063
(Zip Code)

Registrant's telephone number, including area code: (650) 481-6801

Securities registered pursuant to Section 12(b) of the Act:

| Title of each class | Trading Symbol(s) | Name of each exchange on which registered |
|---|-------------------|--|
| Common Stock \$0.0001 Par Value per Share | RVMD | The Nasdaq Stock Market LLC (Nasdaq Global Select Market) |

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES NO

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES NO

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (\$232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). YES NO

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

The Registrant did not have a public float on the last business day of its most recently completed second fiscal quarter because there was no public market for the Registrant's common equity as of such date.

The number of shares of the Registrant's Common Stock outstanding on the Nasdaq Global Select Market as of March 25, 2020 was 59,000,883.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business, operations and financial performance and condition. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "contemplate," "continue," "could," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "predict," "potential," "positioned," "seek," "should," "target," "will," "would," and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- the scope, progress, results and costs of developing our product candidates or any other future product candidates, and conducting preclinical studies and clinical trials, including our RMC-4630 Phase 1/2 clinical program;
- the scope, progress, results and costs related to the research and development of our pipeline;
- the timing of and costs involved in obtaining and maintaining regulatory approval for any of current or future product candidates, and any related restrictions, limitations and/or warnings in the label of an approved product candidate;
- our expectations regarding the potential market size and size of the potential patient populations for RMC-4630, our other product candidates and any future product candidates, if approved for commercial use;
- our ability to maintain existing and establish new collaborations, licensing or other arrangements and the financial terms of any such agreements, including our collaboration with Sanofi;
- our commercialization, marketing and manufacturing capabilities and expectations;
- the rate and degree of market acceptance of our product candidates, as well as the pricing and reimbursement of our product candidates, if approved;
- the implementation of our business model and strategic plans for our business, product candidates and technology, including additional indications for which we may pursue;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates, including the projected term of patent protection;
- estimates of our expenses, future revenue, capital requirements, our needs for additional financing and our ability to obtain additional capital;
- developments and projections relating to our competitors and our industry, including competing therapies and procedures;
- regulatory and legal developments in the United States and foreign countries;
- the performance of our third-party suppliers and manufacturers;
- our ability to attract and retain key scientific or management personnel;
- our expectations regarding the period during which we will qualify as an emerging growth company under the Jumpstart Our Business Startups Act of 2012;
- our expectations regarding our ability to obtain, maintain, enforce and defend our intellectual property protection for our product candidates; and
- other risks and uncertainties, including those listed under the caption "Risk Factors."

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this Annual Report on Form 10-K and are subject to a number of risks, uncertainties and assumptions described in the section titled "Risk Factors" and elsewhere in this Annual Report on Form 10-K. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this Annual Report on Form 10-K, whether as a result of any new information, future events or otherwise.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this report, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.

Investors and others should note that we may announce material business and financial information to our investors using our investor relations website (<https://ir.revmed.com>), Securities and Exchange Commission, or SEC, filings, webcasts, press releases and conference calls. We use these mediums, including our website, to communicate with our members and public about our company, our products and other issues. It is possible that the information that we make available may be deemed to be material information. We therefore encourage investors and others interested in our company to review the information that we make available on our website.

Item 1. Business.**Overview**

We are a clinical-stage precision oncology company focused on developing novel targeted therapies to inhibit elusive, high-value *frontier* targets within notorious growth and survival pathways, with particular emphasis on the RAS and mTOR signaling pathways. We define *frontier* targets as proteins that play an important role in cancer and for which there is either: (1) no approved drug that directly **inhibits** it, or (2) one or more approved drugs that directly inhibit it but through a mechanism of action that may not enable **suppression of the full range of its biologic contributions to cancer**.

Our understanding of genetic drivers and adaptive resistance mechanisms in cancer, coupled with robust drug discovery and medicinal chemistry capabilities, has guided us to establish a deep pipeline targeting critical signaling nodes within these pathways. This cohesive approach underpins our clinical strategy of exploring mechanism-based dosing paradigms and in-pathway combinations to optimize treatment for cancer patients. Our most advanced product candidate, RMC-4630, is a potent and selective inhibitor of SHP2, based on preclinical evidence described in this Annual Report on Form 10-K. SHP2 is a central node in the RAS signaling pathway. In collaboration with Sanofi, we are evaluating RMC-4630 in a multi-cohort Phase 1/2 clinical program. This RMC-4630 Phase 1/2 program currently consists of two active clinical trials: RMC-4630-01, a Phase 1 study of RMC-4630 as a single agent, and RMC-4630-02, a Phase 1b/2 study of RMC-4630 in combination with the MEK inhibitor cobimetinib (Cotellic). In this Annual Report on Form 10-K, we include preliminary data from 63 patients who had enrolled in our Phase 1 study and received RMC-4630 as a monotherapy as of November 6, 2019 and from eight patients who had enrolled in our Phase 1b/2 combination study and received RMC-4630 as of November 14, 2019. Leveraging our proprietary tri-complex technology platform, we are also developing a portfolio of mutant-selective RAS inhibitors that we believe are the first potent, selective, cell-active inhibitors of the active, GTP-bound form of RAS, or RAS(ON). These inhibitors also have exhibited anti-tumor activity *in vivo* in preclinical models. Initially, we will prioritize four mutant RAS(ON) targets—KRASG12C, KRASG13C, KRASG12D and NRASG12C—and expect to nominate our first development candidate in 2020. Our pipeline also includes inhibitors of other key nodes within the RAS and mTOR signaling pathways, such as SOS1 and mTORC1. Our pipeline includes one product candidate that is in clinical development and all of our other programs are in the preclinical stage. We believe our deep, differentiated pipeline and development strategies provide us with the opportunity to pioneer novel treatment regimens to maximize the depth and durability of clinical benefit and circumvent adaptive resistance mechanisms for patients with cancers dependent on these critical pathways.

The RAS and mTOR signaling cascades are among the most frequently exploited by human cancers, where mutations in key nodes in these pathways cause excessive or aberrant signaling and cell growth. For example, mutations in RAS proteins account for approximately 30% of all human cancers in the United States, many of which are fatal. According to the National Cancer Institute, KRAS protein mutations occur in up to 35% of lung, 45% of colon and 95% of pancreatic cancers. Cancers caused by RAS-pathway mutations exhibit a phenomenon called “oncogene addiction,” in which tumor cells become highly dependent on signaling through the RAS pathway to survive. The importance of the RAS pathway in cancer has led to the development of several targeted therapies that can profoundly inhibit tumor growth and cause regressions in some instances. However, cancer cells can eventually develop adaptive resistance, losing sensitivity to treatment by hijacking other cell signaling circuitry to circumvent the inhibition and restore RAS-dependent signaling. The need to overcome this resistance in treating RAS-dependent tumors has led to the use of combination regimens designed to inhibit the RAS signaling pathway at multiple nodes simultaneously in an attempt to prolong the depth and durability of clinical benefit.

Despite recent progress in targeted therapies, we believe there is a significant need and opportunity to further improve the treatment of certain cancers. We have built an innovation engine consisting of three complementary drivers that enable us to discover and develop targeted therapies for elusive, high-value *frontier* cancer targets within notorious growth and survival pathways:

- Deep **chemical biology and cancer pharmacology know-how**, including assays and proprietary tool compounds, to define the critical vulnerabilities of “frontier” RAS and mTOR pathway targets and associated signaling circuits in cancer cells;
- Sophisticated **structure-based drug discovery capabilities**, including proven **access to complex chemical space**, to create drug candidates tailored to unconventional binding sites on elusive cancer targets; and
- Astute **precision medicine approach**, embracing patient selection and innovative single agent and combination drug regimens, to translate our preclinical insights into clinical benefit for patients with genetically-defined cancers that are addicted to these pathways.

Focusing these drivers on a cohesive set of related disease targets provides biological, chemical and translational insights that can be leveraged to maximize the efficiency and effectiveness of our discovery and development efforts. We have built a portfolio of compounds that inhibit select signaling nodes within these pathways, including clinical targets that previously have been difficult or

impossible to drug. We believe our current and future product candidates, when used in specialized dosing paradigms and rational in-pathway combinations, will have the potential to promote profound and sustainable clinical benefit, combat adaptive resistance mechanisms and, in some cases, supplant the current standard of care for patients with tumors driven by these pathways.

Our most advanced product candidate, RMC-4630, is a potent and selective inhibitor of SHP2, based on preclinical evidence described in this Annual Report on Form 10-K. SHP2 is a protein that plays a central role in modulating cell survival and growth by transmitting signals from upstream receptor tyrosine kinases, or RTKs, to RAS. In collaboration with Sanofi, we are evaluating RMC-4630 in a multi-cohort Phase 1/2 clinical program, which includes our ongoing Phase 1 study of RMC-4630 as monotherapy in patients with advanced cancers, including those with tumors harboring genetically defined mutations in the RAS signaling pathway and our ongoing Phase 1b/2 study of RMC-4630 in combination with the MEK inhibitor cobimetinib. Based on our own data, and supported by observations by others, we are evaluating intermittent dosing schedules in our clinical program to allow us to maximize dose intensity in order to achieve the greatest depth of response. We also plan to explore the potential clinical benefit of RMC-4630 in combination with other in-pathway agents such as RTK (initially epidermal growth factor receptor, or EGFR), KRASG12C inhibitors, and ERK inhibitors as well as in combination with PD-1 inhibitors. In November 2019, we entered into an agreement with Amgen to evaluate the combination of RMC-4630 and Amgen's KRASG12C(OFF) inhibitor, AMG 510, in a Phase 1b trial that will be conducted by Amgen. Site activation, including appropriate institutional review board approval has begun (www.clinicaltrials.gov). Patient dosing has not started and may be delayed due to the COVID-19 pandemic. In March 2020, the Pancreatic Cancer Collective (a strategic partnership between Lustgarten Foundation and Stand Up To Cancer) announced that it had awarded funding to the Netherlands Cancer Institute, or the NKI, for its study using our SHP2 inhibitor, RMC-4630 and an investigational ERK inhibitor in patients with pancreatic cancer. We would provide RMC-4630 to support this study. Although we are at an early stage of clinical testing and product candidate development, we believe RMC-4630 is well-positioned to become the backbone of targeted therapy combinations for the treatment of various RAS-dependent tumors. Under our collaboration with Sanofi on our SHP2 program, we have a 50-50 profit share and a co-promote right in the United States and are eligible to receive royalties on net sales outside of the United States. Sanofi is responsible for reimbursing substantially all of our research costs and all of our development costs for the SHP2 program.

We are also developing a portfolio of what we believe to be the first potent, selective and cell-active inhibitors of mutant RAS(ON) proteins. Historically, direct inhibition of any RAS protein has been challenging due to a lack of tractable, or "druggable," binding pockets. Recently, selective inhibitors of inactive, GDP-bound forms of RAS, or RAS(OFF), have demonstrated encouraging preliminary anti-tumor effects and thus provide clinical validation for targeting mutant RAS in cancer. Our small molecule inhibitors of mutant RAS(ON) are derived from our proprietary tri-complex technology platform, which enables us to target proteins lacking intrinsic drug binding sites by inducing new druggable pockets. Initially, we will prioritize four mutant RAS(ON) targets—KRASG12C, KRASG13C, KRASG12D and NRASG12C—and expect to nominate our first development candidate in 2020. We plan to evaluate our RAS(ON) inhibitors alone and in combination with other drugs and investigational new drugs, particularly in-pathway agents. We believe that targeted inhibition of various oncogenic RAS(ON) mutants represents a highly differentiated approach for treating the large population of patients with diverse RAS mutations, including non-small cell lung cancer, or NSCLC, colorectal, pancreatic and other cancers.

We have two preclinical programs targeting other key nodes in the RAS and mTOR signaling pathways. Our program targeting SOS1, a protein that plays a key role in converting RAS(OFF) to RAS(ON) in cells, is currently in lead generation stage. In addition, our preclinical development candidate, RMC-5552, is designed to selectively and deeply inhibit mTORC1, thereby preventing phosphorylation and inactivation of 4E-BP1, a downstream protein in the mTOR signaling pathway that normally suppresses expression of certain oncogenes such as C-MYC. We advanced RMC-5552 into IND-enabling development in June 2019.

Our management team has significant experience in oncology and in progressing products from early stage research to clinical trials, and ultimately to regulatory approval and commercialization. Dr. Steve Kelsey, our President of Research and Development, was previously President of Onkaido Therapeutics, a Moderna venture focused on oncology mRNA therapeutics, and has held senior positions at Medivation, Geron and Genentech, where he played a significant role in the development of Perjeta, Kadlecyl and Erivedge. Our President and Chief Executive Officer, Dr. Mark Goldsmith, served as Chief Executive Officer of Constellation Pharmaceuticals, where he led the creation of its oncology pipeline and drove the development of a strategic alliance with Genentech. He also has led four other companies spanning early discovery through development, including Global Blood Therapeutics, where he led the discovery and early development of voxelotor.

Our company was founded and continues to be supported by three world-class scientific advisors: Dr. Kevan Shokat (Professor and Chair of the Department of Cellular and Molecular Pharmacology at University of California, San Francisco, Professor of Chemistry at the University of California, Berkeley and an investigator at the Howard Hughes Medical Institute), Dr. Martin Burke (Professor of Chemistry at the University of Illinois at Urbana-Champaign) and Dr. Michael Fischbach (Associate Professor in the Department of Bioengineering at Stanford University and a Stanford ChEM-H Institute Scholar). Dr. Shokat is widely recognized for his seminal contributions to the field of kinase biology, using chemistry, protein engineering and genetic tools to pioneer novel therapeutic approaches to target key signaling pathways in cancer. He led the discovery of the first KRASG12C(OFF) inhibitor.

Our strategy

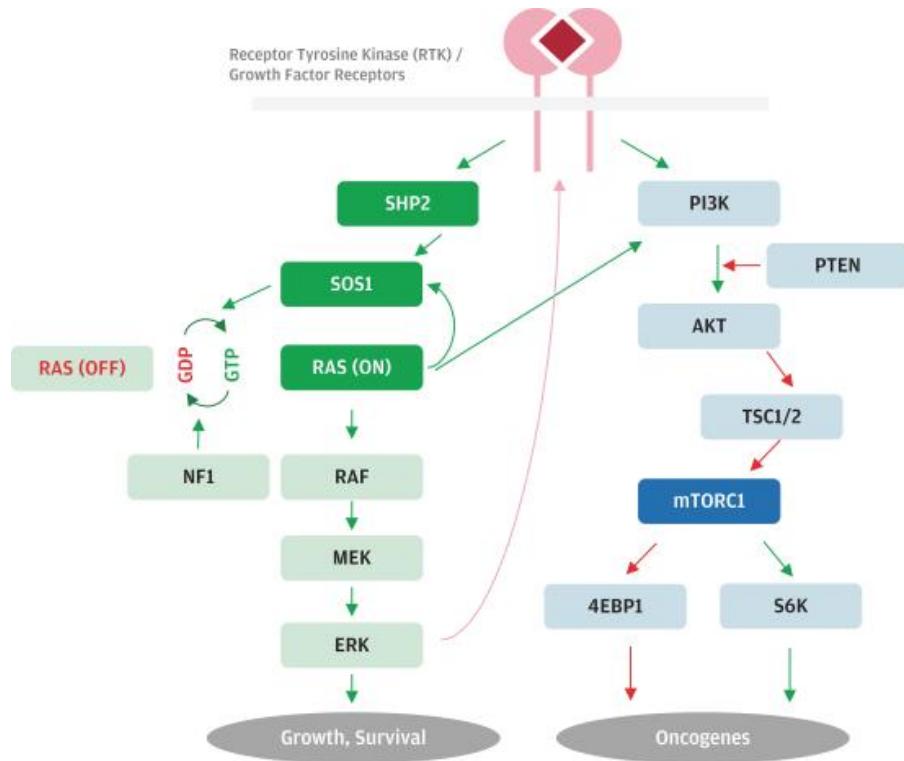
Our goal is to develop novel targeted therapies to outsmart cancer for the benefit of patients. We plan to pursue the following strategies:

- **Deploy our innovation engine against frontier oncology targets.** We use our chemical biology and cancer pharmacology know-how, structure-based drug discovery capabilities, and precision medicine approach to discover and develop compounds designed to overcome the complex molecular circuitry of cancer. We focus on a cohesive set of genetically-defined targets in the RAS signaling pathway to create compounds that may be used alone and in combination with other targeted therapies. We evaluate in-pathway proprietary mechanism-based combination therapies and innovative dosing paradigms. Collectively, these are designed to maximize the depth and durability of clinical benefit and improve the lives of patients with cancer.
- **Establish our proprietary SHP2 inhibitor, RMC-4630, as the backbone of targeted therapy combinations for the treatment of RAS-dependent tumors.** As SHP2 is a convergent node within the oncogenic RAS-signaling pathway, we plan to evaluate RMC-4630 in combination with other in-pathway agents targeting RTK (initially EGFR), and KRASG12C. We have initiated a Phase 1b/2 trial of RMC-4630 with cobimetinib (a MEK inhibitor) and we plan to evaluate RMC-4630 in combination with osimertinib (an EGFR inhibitor). We also intend to study RMC-4630 in combination with Amgen's AMG 510, a KRASG12C(OFF) inhibitor in a Phase 1b trial that will be conducted by Amgen, and expect to subsequently study RMC-4630 in combination with our proprietary KRASG12C(ON) inhibitor once a clinical candidate has been selected for development. In March 2020, the NKI announced its intention to sponsor the SHERPA (SHP2 and ERK inhibitors in Pancreatic Cancer) study using our SHP2 inhibitor, RMC-4630. As many patients with tumors carrying mutations that are potentially SHP2-dependent are currently treated with immune checkpoint inhibitors, we also plan to study RMC-4630 in combination with a PD-1 inhibitor.
- **Pioneer mutant selective RAS(ON) inhibition across multiple genetically defined cancers.** There are dozens of RAS mutants that have been implicated as molecular drivers of cancer. We are developing a pipeline of small molecules targeting multiple oncogenic forms of RAS(ON) that are derived from our proprietary tri-complex technology platform. Initially, we will prioritize four mutant RAS(ON) targets—KRASG12C, KRASG13C, KRASG12D and NRASG12C—and expect to nominate our first development candidate in 2020. We plan to evaluate our RAS(ON) inhibitors alone and in combination with other drugs and investigational new drugs, particularly in-pathway agents. We believe that targeted inhibition of various oncogenic RAS(ON) mutants represents a highly differentiated approach for treating the large population of patients with diverse RAS mutations, including NSCLC, colorectal, pancreatic and other cancers.
- **Maximize the global value of our programs by continuing to execute synergistic and value-creating transactions.** We have the organizational capabilities and resources to enable us to continue to complete value-creating transactions, such as our collaboration with Sanofi on SHP2 and our acquisition of Warp Drive. In the future, we may enter into other collaborations where we believe there is an opportunity to accelerate the development and commercialization of our product candidates while allowing us to retain meaningful rights in major markets. We may also seek to acquire or in-license product candidates or technologies opportunistically that are synergistic with our drug discovery and development efforts.
- **Maintain our culture of tireless commitment to patients.** As we grow our business, we will continue to apply transformative science in the development of novel targeted therapies for patients suffering from cancers with limited therapeutic options. To accomplish this, we intend to continue building our team of qualified individuals who share our commitment to collaboration and scientific rigor in the development of novel therapies to outsmart cancer and improve the lives of patients.

Our opportunity: unmet needs in cancers with driver mutations in notorious growth and survival pathways

Background

The RAS and mTOR signaling cascades are among the most frequently exploited by human cancers. Cancer cells often carry mutations in proteins in these pathways that subvert normal cell growth and survival by causing excessive or aberrant signal transduction. These proteins can be directly or indirectly involved in signal transduction. For example, many tumors of different types exhibit excessive activation of the RAS signaling cascade as a result of mutations in RTKs, RAS, NF1 and/or RAF.



We have built a portfolio of compounds that inhibit select signaling nodes within the RAS and mTOR pathways. To date, our discovery and development efforts have focused on SHP2, RAS, SOS1 and mTORC1 (these targets are shaded dark green or blue in the figure above).

SHP2

SHP2 is a protein tyrosine phosphatase that plays a critical role in the transduction of intracellular signals downstream of a wide variety of RTK growth factor receptors to promote cell survival and growth. SHP2 acts as a central signaling node that regulates growth signals within normal cells and, in certain circumstances, cancer cells. Some mutant forms of RAS, such as KRASG12C and KRASG12A, exert their oncogenic effects by amplifying or exaggerating normal RTK-mediated growth signals transmitted via SHP2, and as a result they can be suppressed by inhibiting SHP2. There are other cancer-causing mutations that result in, or are dependent upon, activation of wild-type RAS and are likewise dependent on SHP2, including amplification of wild-type RAS or mutations in the gene encoding the GTPase-activating protein (GAP) neurofibromin 1 (NF1) which reduce activity of NF1 (so called NF1 loss-of-function or NF1LOF), and class 3 mutations in the downstream effector BRAF (BRAFClass3).

RAS proteins drive normal cell proliferation, differentiation and survival in response to growth factors acting through RTKs, and they can also be direct drivers of cancer. Normally RAS proteins cycle between an inactive form (RAS(OFF)), which is bound to GDP and unable to transmit signals, and an active conformation (RAS(ON)), which is induced upon binding GTP in response to growth factor receptor stimulation, causing it to become competent to interact physically with downstream effector proteins such as RAF. The magnitude of cell signals transmitted by the RAS activation cycle is proportional to the intracellular level of RAS(ON). In a healthy, normal cell RAS(ON) represents a small fraction of the total RAS pool within a cell. Signals arising from RTKs upstream of the RAS cycle act through SHP2 to promote the substitution of GTP for GDP in association with RAS, thereby increasing RAS(ON) levels. In cancers with abnormally elevated RTK activity, increased signaling via the RAS activation cycle is a major driver of tumor cell growth. Likewise, oncogenic mutations of RAS itself result in a significant slowing of the enzymatic conversion of RAS-bound GTP to GDP and thus drive cancer by raising RAS(ON) significantly above normal levels. In some cells harboring a KRASG12C mutation, 80% or more of cellular KRASG12C is in the GTP-bound state (RAS(ON)), representing a >15-fold increase compared to wild-type KRAS. As a general principle, RAS-dependent cancer cells exploit a high level of RAS(ON) for continued survival and growth.

SOS1

SOS1 is a member of a family of proteins that activate RAS. SOS1 directly activates RAS proteins by promoting the release of tightly bound GDP and facilitating the binding of GTP, which is present at a much higher intracellular concentrations than GDP, to generate RAS(ON). SOS1 itself is activated by RAS through the binding of RAS(ON) to an allosteric site on the SOS1 protein. As a result, there is a positive feedback loop between SOS1 and RAS that increases RAS signaling. The activation of RAS by SOS1 is ‘processive’; that is, once a single molecule of SOS1 is activated it can sequentially activate multiple RAS molecules until it eventually becomes inactive.

4EBP1/mTORC1

mTORC1 and mTORC2 are large protein complexes that share mTOR kinase but contain distinct additional components and cellular functions. mTORC1 is a critical regulator of metabolism, growth and proliferation within cells, including cancer cells. Two of the main substrates of mTORC1 are eukaryotic initiation factor 4E-binding protein 1 (4EBP1) and ribosomal S6 kinase (S6K). Under resting conditions non-phosphorylated 4EBP1 functions as a suppressor of the translation of proteins that are required for cell growth, proliferation and survival. Phosphorylation of 4EBP1 by activated mTORC1 inhibits this suppressive regulatory function and thereby upregulates translation of these proteins. One of the most important proteins regulated by 4EBP1 is the oncogenic protein C-MYC, which for many years has been thought to be central to cancer cell growth and survival. The abnormal activation of mTORC1, and subsequent inactivation of the tumor suppressor 4EBP1, is a mechanism that is frequently harnessed by cancer cells to gain a growth and proliferation advantage over normal cells. A number of upstream proteins in the mTOR signaling pathway that regulate mTORC1 activity are frequently mutated, or deleted, in cancer cells, resulting in increased activation of mTORC1 and upregulation of translation; these targets of mutation include PTEN, PI3 kinase (PI3K) and hamartin (TSC1) and tuberin (TSC2).

RAS mutant epidemiology in the United States

Mutations in RAS proteins account for approximately 30% of all human cancers in the United States, many of which are fatal. Diverse oncogenic RAS mutations in three different RAS isoforms (KRAS, NRAS and HRAS) drive distinct human cancers. KRAS mutations are commonly found in NSCLC and account for approximately 85% of RAS-mutant cancers. NRAS mutations are commonly found in melanoma and account for approximately 11% of RAS-mutant cancers. HRAS mutations are commonly found in bladder cancer and account for 4% of RAS-mutant cancers. The table below summarizes the frequency of RAS cancer mutations in the United States. There continues to be a high unmet medical need for patients bearing tumors with these mutations. We believe our programs, including our SHP2, RAS and SOS1 inhibitors, may be useful in addressing this unmet medical need.

| Histotype | Projected total new cases in 2019 [†] | KRAS G12C [‡] | KRAS G12D [‡] | KRAS G13C [‡] | KRAS G12A [‡] | NRAS G12C [‡] | NF1 (LOF) [‡] | BRAF Class3 [‡] | KRAS Amp [‡] |
|-------------------|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|-----------------------|
| NSCLC* all | 194,000 | 21,340 (11) | 7,760 (4) | 1,940 (1) | 3,880 (2) | - | 11,640 (6) | 1,940 (1) | 7,760 (4) |
| NSCLC adeno only* | 91,000 | 12,740 (14) | 4,550 (5) | 910 (1) | 2,730 (3) | - | 4,550 (5) | 910 (1) | 2,730 (3) |
| Colorectal | 145,000 | 5,800 (4) | 21,750 (15) | 435 (0.3) | 2,900 (2) | 290 (0.2) | 4,350 (3) | 1,450 (1) | 1,450 (1) |
| Pancreatic | 56,000 | 1,120 (2) | 19,600 (35) | 56 (0.1) | 280 (0.5) | - | 560 (1) | 168 (0.3) | 1,680 (3) |
| AML* | 21,000 | 84 (0.4) | 210 (1) | - | 210 (1) | 210 (1) | 630 (3) | 42 (0.2) | 21 (0.1) |
| Others | Uterine: 61k Melanoma: 96k | Uterine 610 (1) | Uterine 1,830 (3) | Uterine 244 (0.4) | Uterine 1,220 (2) | Melanoma 192 (0.2) | Melanoma 12,480 (13) | Melanoma 2,880 (3) | Uterine 1,830 (3) |

(*) NSCLC = Non-small cell lung cancer; Adeno = adenocarcinoma; AML = Acute myeloid leukemia.

(†) Data are based on projections from the National Cancer Institute's SEER Program for new cases of lung cancer, colorectal cancer, pancreatic cancer, AML and other cancers in 2019 and estimates from the American Cancer Society of the incidence of NSCLC and adenocarcinoma in lung cancer cases.

(‡) Reflects our estimate of projected number of cases in 2019 by RAS protein mutation for each cancer histotype indicated. Estimated frequency percentages (shown in parentheses) of RAS protein mutation in applicable histotype are based on data obtained from Foundation Medicine, Inc., applied to data described in footnote † above.

Limitations of approved drugs treating RAS-dependent cancers and our opportunity

A major goal in contemporary oncology treatment is to replace relatively unselective chemotherapy regimens—which in many cases remain the standard of care today but provide only partial benefit with many side effects—with more effective and better tolerated targeted therapeutic options. Targeted therapies directed against RAS-dependent cancers, which include drugs that inhibit RTKs, RAF and MEK, have been approved for use in lung cancer, melanoma and colorectal cancer. These targeted therapies have shown the capacity to drive deeper and more durable responses than conventional chemotherapy regimens while minimizing unwanted side effects and damage to normal tissues.

Two treatment gaps remain in RAS-dependent cancers. First, several oncogenic proteins are not addressed by current targeted therapies. Second, cancers driven by oncogenic proteins that are addressed by current targeted therapies often progress in the face of drug therapy due to adaptive resistance mechanisms.

Specific examples of *frontier* cancer drivers are RAS, NF1, and selected RAF mutants (BRAFClass3). Historically, direct inhibition of any RAS protein has been challenging due to a lack of tractable, or “druggable,” binding pockets. Recently reported initial clinical results from two RAS(OFF) inhibitors targeting mutant KRASG12C suggest significant clinical benefit and provide strong pharmacologic validation of this oncoprotein as a cancer driver. These results, along with other preclinical data, provide a compelling basis for our commitment to targeting oncogenic mutant forms of RAS(ON). We are using our innovation engine to develop a portfolio of mutant-selective RAS(ON) inhibitors and, initially, we will prioritize four mutant RAS(ON) targets—KRASG12C, KRASG13C, KRASG12D and NRASG12C.

A common source of treatment failure with existing targeted therapies is that cancer cells exhibiting “oncogene addiction” exploit cell signaling circuitry to bypass the drug’s effect and sustain growth and survival. This phenomenon is particularly well recognized in RAS-dependent cancers, and may be especially active in certain tumor histotypes, making them less sensitive to a drug from the outset and/or more likely to progress over time. Certain RAS-dependent cancers have been treated with two RAS pathway targeted agents to achieve combinatorial benefit by attenuating adaptive resistance mechanisms. For example, melanomas driven by BRAFClass1 mutations can be treated with a combination of a BRAF inhibitor and a MEK inhibitor. SHP2 is believed to be a central node that can be targeted to disrupt bypass signaling pathways that may involve activation of multiple RTKs. Therefore, although we are at an early stage of clinical testing and product candidate development, we believe RMC-4630, a potent and selective inhibitor of SHP2, is well positioned to become the backbone of targeted therapy combinations for the treatment of various RAS-dependent tumors, and plan to explore this paradigm in our ongoing RMC-4630 clinical program.

We are using our innovation engine to develop novel targeted therapies and combination regimens to address these treatment gaps.

Our innovation engine

We have built an innovation engine that enables us to discover and develop novel targeted therapies for elusive high-value *frontier* cancer targets with particular focus on a cohesive set of disease targets within notorious growth and survival pathways. This engine consists of three complementary drivers:

- Deep **chemical biology and cancer pharmacology know-how**, including assays and proprietary tool compounds, to define the critical vulnerabilities of “frontier” RAS and mTOR pathway targets and associated signaling circuits in cancer cells;
- Sophisticated **structure-based drug discovery capabilities**, including proven **access to complex chemical space**, to create drug candidates tailored to unconventional binding sites on elusive cancer targets; and
- Astute **precision medicine approach**, embracing patient selection and innovative single agent and combination drug regimens, to translate our preclinical insights into clinical benefit for patients with genetically-defined cancers that are addicted to these pathways.

Our chemical biology and cancer pharmacology know-how

We test our inhibitors across a diverse set of human cancer cell and patient-derived *in vitro* and/or *in vivo* models of cancer. This is complemented by targeted implementation of bioinformatics and functional genomics. The biological insights we generate help us to unravel the complex molecular circuitry in human cancers. We also explore mechanisms of adaptive resistance that RAS-addicted cancer cells use to circumvent inhibition of the pathway, and develop innovative mechanism-based dosing paradigms and rational in-pathway combinations with our proprietary compounds and/or other agents. We evaluate such dosing and combination approaches in our preclinical *in vitro* and *in vivo* models to define their pharmacologic opportunities and limitations, and to prioritize therapeutic strategies for translation to the clinic.

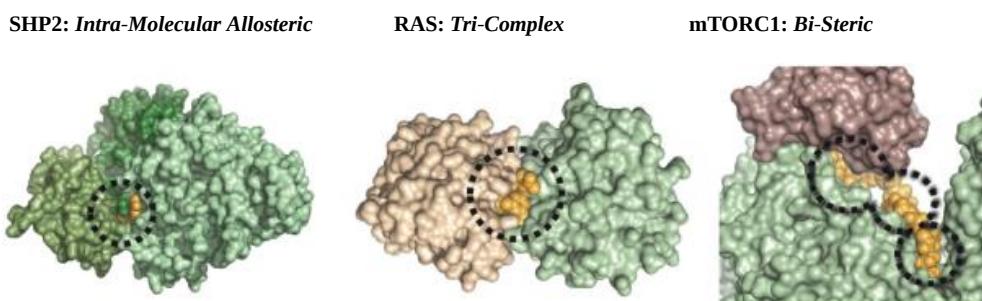
Our structure-based drug discovery capabilities

We enlist various technologies and capabilities that give us chemical access to challenging sites that are generally not accessible using conventional small molecule drug discovery approaches. For each target, we consider the specific structural, physico-chemical, functional and dynamic properties of the target and deploy the approach(es) that appears most likely to yield viable development candidates. In some instances the compounds we discover and develop are small molecules (e.g., less than 500 mw) with properties that generally satisfy conventional pharmaceutical “Rule of 5” criteria, while in other cases, they are larger (e.g., 500-1000 mw) “Beyond Rule of 5” compounds. In either case, we use various structure-based design tools to discover the initial chemical matter, drive optimization using iterative medicinal chemistry, and generate structure-activity and structure-property relationships to identify development candidates. In order to prosecute effective medicinal chemistry campaigns within complex chemical space, we use our deep experience and make the necessary investments to design and develop scalable modular chemical synthesis, purification and analytical methods for selected scaffolds to routinely and efficiently analogue our “Beyond Rule of 5” chemical series.

Although we are at an early stage of clinical testing and product candidate development, we believe our differentiated chemical approaches to discovering inhibitors for challenging *frontier* cancer targets is exemplified by our current portfolio. Each of our current programs takes advantage of allosteric regulation to inhibit the target of interest by exploiting one or more of three distinct mechanisms. We use the term allosteric inhibitors to describe those that “act at a distance,” meaning that the inhibitory effect occurs at a protein site or domain distinct from the compound’s binding site.

- i) **Intra-Molecular Allosteric Inhibitors:** Our SHP2 inhibitors, including RMC-4630, act by binding to a site in the protein that is distinct from the catalytic “active site” but nonetheless inhibit the phosphatase activity of SHP2. The inhibitors bind to a pocket within SHP2 that is formed when the protein is folded back onto itself in its basal, “autoinhibited” state; by binding to this pocket, these compounds stabilize the inactive conformation of SHP2 and therefore inhibit its overall function. We refer to this mechanism as “intra-molecular allostery” since it involves inhibitory actions entirely within the target protein itself. RMC-4630 is a traditional “Rule of 5” compound.
- ii) **Tri-Complex Inhibitors:** Our targeted mutant RAS(ON) portfolio takes advantage of our proprietary tri-complex technology that enables us to discover small molecule inhibitors of targets lacking intrinsic drug binding sites by inducing new druggable pockets. Our RAS inhibitors induce a new binding pocket on RAS(ON) by driving formation of a high affinity ternary complex (tri-complex) between the mutant RAS protein and a widely expressed cytosolic protein called a chaperone (e.g., FKPB12 or cyclophilin A). The inhibitory effect on RAS is mediated by steric occlusion of the interaction site between the mutant RAS and downstream effector molecules, such as RAF, which are required for propagating the oncogenic signal. We refer to this mechanism as “inter-molecular allostery” since it involves indirect inhibitory effects of a second protein (the chaperone) on the target in the presence of our tri-complex inhibitors. Our RAS(ON) inhibitors, which are inspired by natural products that act through this type of mechanism, are “Beyond Rule of 5” compounds.

iii) **Bi-Steric Inhibitors:** Our mTORC1 inhibitors comprise two pharmacophores in a single compound. One pharmacophore binds to the well-known FRB (FKBP12-rapamycin binding) site on mTORC1 and the other binds to the mTOR kinase active site. As a result of these two binding interactions, such compounds exhibit two biologically useful features: (1) selectivity for mTORC1 over mTORC2, which is characteristic of the natural compound rapamycin, and (2) deep inhibition of mTORC1, which is characteristic of known active site inhibitors. These properties enable selective inhibition of phosphorylation of mTORC1 substrates, including 4EBP1. We refer to this type of inhibition as a “bi-steric mode.” These mTORC1 inhibitors, which are inspired by natural products, are “Beyond Rule of 5” compounds.



Our precision medicine approach

We interrogate the biology of different cancers and their associated mutational drivers to help inform patient selection, therapeutic treatment regimens, and appropriate outcome measures. To identify patient subsets that may benefit most from our treatment strategies, we use genomics, transcriptomics and proteomics data from human tumor samples and/or broad panels of human cancer cell lines. We also pursue development of drug combinations where combinatorial benefits are predicted and confirmed in preclinical models. Innovative, mechanism-based dosing paradigms are explored for each combination and refined using pharmacokinetic and pharmacodynamic modeling techniques and sophisticated continuous reassessment dosing methodology. We also identify and monitor pharmacodynamic biomarkers and surrogates of clinical activity to help measure target inhibition.

Our pipeline

We are using our innovation engine to develop a deep pipeline of novel targeted therapies to inhibit elusive, high-value *frontier* targets within the notorious RAS and mTOR signaling pathways. Our pipeline includes one product candidate that is in clinical development and all of our other programs are in the preclinical stage. Under our collaboration with Sanofi on our SHP2 program, we have a 50-50 profit share and a co-promote right in the United States and are eligible to receive royalties on net sales outside of the United States. Sanofi is responsible for reimbursing substantially all of our research costs and all of our development costs for the SHP2 program. For all other programs, we retain worldwide commercial rights.

| Pathway | Target | Preclinical | | | Clinical | | | Partner |
|---------|--|-------------|---------|---------|----------|--|--|---------|
| | | IND | Phase I | Phase 2 | Phase 3 | | | |
| RAS | SHP2 RMC-4630 | | | | | | | SANOFI |
| | Multiple RAS(ON) KRAS ^{G12C} KRAS ^{G12E} KRAS ^{G12D} NRAS ^{G12C} | | | | | | | |
| | SOS1 | | | | | | | |
| | mTORC1 RMC-5552 | | | | | | | |

Our SHP2 inhibitor, RMC-4630

Overview

Our most advanced product candidate, RMC-4630, is a potent and selective inhibitor of SHP2, based on preclinical evidence described in this Annual Report on Form 10-K. SHP2 is a protein that plays a central role in modulating cell survival and growth by transmitting signals from upstream RTKs to RAS. In collaboration with Sanofi, we are evaluating RMC-4630 in a multi-cohort Phase 1/2 clinical program, which includes our ongoing Phase 1 study of RMC-4630 as monotherapy in patients with advanced cancers, including those with tumors harboring genetically defined mutations in the RAS signaling pathway, and our ongoing Phase 1b/2 study of RMC-4630 in combination with the MEK inhibitor cobimetinib. Based on our own data, and supported by observations by others, we are evaluating intermittent dosing schedules in our clinical program to allow us to maximize dose intensity in order to achieve the greatest depth of response. We also plan to explore the potential clinical benefit of RMC-4630 in combination with other in-pathway agents targeting RTK (initially EGFR), KRASG12C, and ERK, as well as in combination with PD-1 inhibitors. Although we are at an early stage of clinical testing and product candidate development, we believe RMC-4630 is well-positioned to become the backbone of targeted therapy combinations for the treatment of various RAS-dependent tumors.

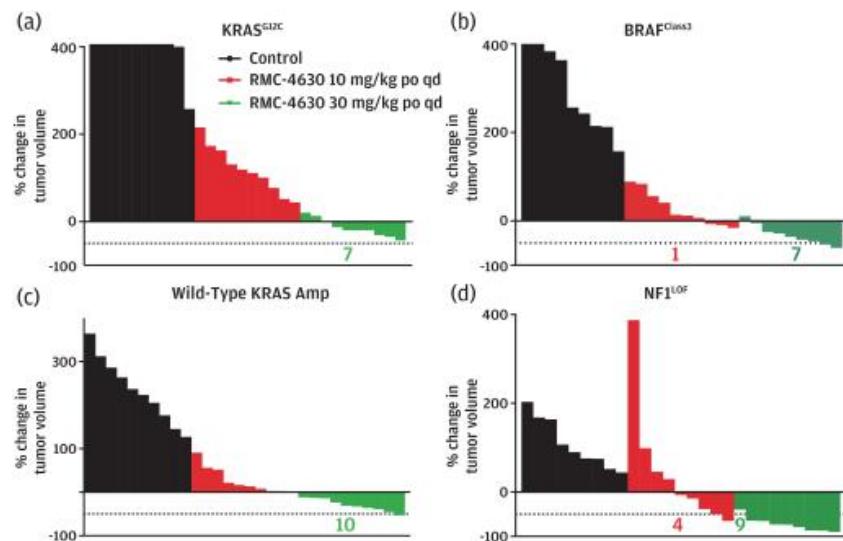
Preclinical profile of RMC-4630

RMC-4630 potently inhibits SHP2 phosphatase activity in a biochemical assay that monitored dephosphorylation of a probe substrate (IC_{50} 1.29 nM, range 0.9 nM to 2.2 nM, number of experiments = 13) and SHP2 function in cellular assays, as measured by inhibition of ERK1/2 phosphorylation at Thr202/Tyr204, a read out for RAS pathway activation (IC_{50} values of 14 nM in PC9EGFRex19del cells, range 5.3 nM to 63 nM, number of experiments = 11; and 20 nM in NCI-H358 KRASG12C cells, range 14.5 nM to 27.5 nM, number of experiments = 4). In standard *in vitro* assays of target selectivity, no significant interaction with kinases or other phosphatases was observed. RMC-4630 (up to a test concentration of 10 μ M) exhibited no inhibition of full length SHP1 phosphatase (number of experiments = 3), or the catalytic domains of SHP1 and thirteen other phosphatase enzymes (single experiment conducted in duplicate). RMC-4630 exhibited over 3,000-fold (range 7054 to >19,000, single experiment conducted in duplicate) selectivity for SHP2 (as measured by biochemical potency) over a panel of over 450 kinases (as measured by displacement of probe binding).

Preclinical anti-tumor activity

Consistent with the role of SHP2 as a regulator of the RAS cycle, we observed that RMC-4630 suppresses tumor growth in a dose-dependent manner in human cell-line or patient-derived preclinical xenograft models of tumors harboring KRASG12C, NF1LOF, or BRAFClass3 mutations or wild-type KRAS amplifications (Figure 1). Moreover, RMC-4630 at 30 mg/kg daily administered orally induced regression in some tumor models.

Figure 1: RMC-4630 suppresses tumor growth in preclinical xenograft models of tumors harboring KRASG12C, NF1LOF, or BRAFClass3 mutations or wild-type KRAS amplifications.

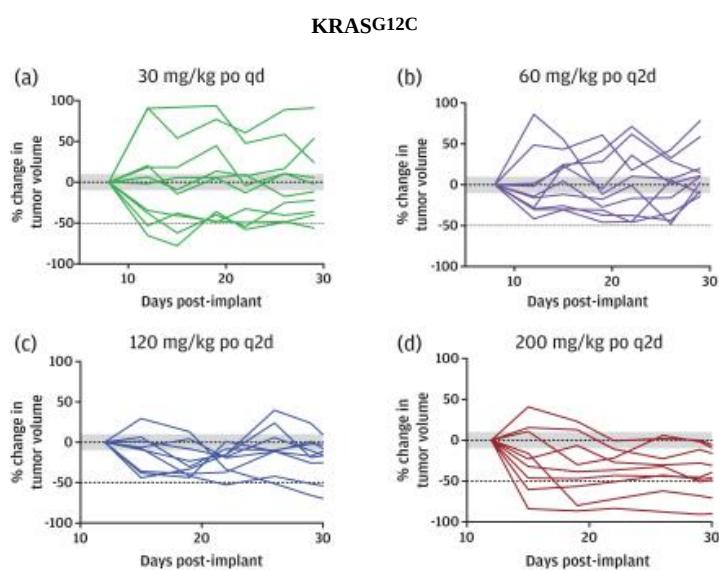


Daily oral administration (po qd) of RMC-4630 at 10 mg/kg (red) or 30 mg/kg (green) produces a dose-dependent inhibition of tumor growth in multiple solid human tumor cell line-derived or patient-derived xenograft (CDX or PDX, respectively) models bearing RAS pathway activating mutations of interest. All human xenograft models implanted in immune-deficient mice: (a) non-small cell lung cancer (NSCLC) PDX LUN#092 KRASG12C, (b) NSCLC BRAFClass 3 PDX LUN#023 (BRAF^{D594N}), (c) gastric cancer PDX STO#332 wild-type KRAS amplification (KRAS Amp, copy number, CN = 4) and (d) NSCLC CDX NCI-H1838 NF1LOF (NF1^{I184fs}). Control animals are shown in black. Data represent waterfall plots of individual end of study tumor responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 400%). Each animal is represented as a separate bar (number of mice per group = 9 to 10). Numbers indicate number of regressions (defined as > 10% reduction in tumor volume)

Optimizing dosing and scheduling

Using an intermittent dosing schedule, which permits deep but discontinuous inhibition of the SHP2 target, significantly higher doses of RMC-4630 were tolerated than could be delivered with daily dosing. These higher doses of RMC-4630 led to increased tumor growth inhibition and resulted in more frequent and deeper tumor regressions (Figure 2).

Figure 2: Intermittent dose regimens of RMC-4630 produce deeper and more frequent tumor regressions than daily dosing at maximal tolerated dose in a preclinical xenograft model of NSCLC tumors harboring KRASG12C mutations.



Anti-tumor activity of daily (qd) and intermittent, every other day, (q2d) oral (po) dose regimens for RMC-4630 in NSCLC NCI-H358 KRASG12C cell line-derived xenograft model in mice. Graphs show tumor volume data for individual animals, expressed as a percentage of initial tumor volume at time of study start, for (a) 30 mg/kg qd, (b) 60 mg/kg q2d, (c) 120 mg/kg q2d and (d) 200 mg/kg q2d dose regimens (number of animals per group = 9 to 10). Changes in tumor volume of greater than 10% (grey zone) are considered significant. Dotted line references 50% reduction in tumor volume. All dose regimens were well-tolerated.

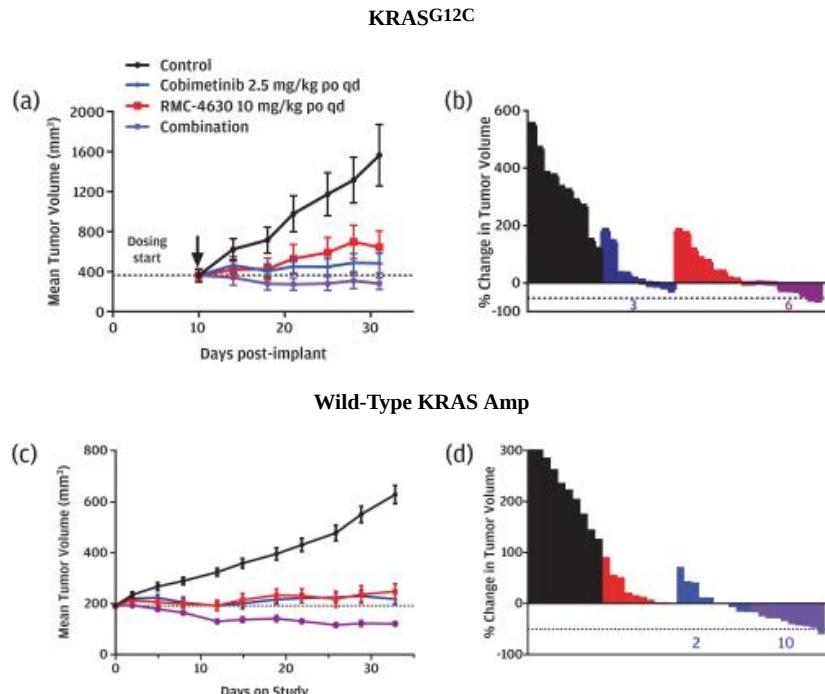
Rationale for combining with other targeted agents

Certain cancer treatments that inhibit components of the RAS signaling pathway are often unable to achieve the desired clinical effect as single agents due to the rapid development of adaptive resistance. These resistance mechanisms often involve hyperactivation of various RTKs that drive oncogenic signals via SHP2. Given that SHP2 is required for RAS signaling pathway activation by many RTKs, it might represent a viable target to limit potential resistance to other single-agent treatments. Inhibition of SHP2 in cell culture experiments abrogated RTK signaling and, in preclinical studies, RMC-4630 demonstrated combinatorial activity when given with other RAS signaling pathway inhibitors, such as MEK, KRASG12C or EGFR.

MEK inhibitors, such as cobimetinib, are approved for the treatment of certain types of melanoma but only in combination therapy. As single agents they have shown limited clinical effect, particularly in lung cancers carrying RAS mutations, which is believed to be due in part to adaptive resistance mechanisms.

In several preclinical tumor xenograft models either RMC-4630 or cobimetinib, dosed as single agents at doses lower than the maximally tolerated dose for each agent, inhibited tumor growth but induced few tumor regressions. However, the number and depth of tumor regressions was markedly increased upon treatment with a combination of these low-doses of RMC-4630 and cobimetinib (Figure 3).

Figure 3: Combination benefit for RMC-4630 and cobimetinib in preclinical xenograft models of tumors harboring KRASG12C mutations or wild-type KRAS amplifications.



Anti-tumor activity of RMC-4630 (10 mg/kg, red) and cobimetinib (2.5 mg/kg, blue) dosed daily by oral administration (po, qd) as single agents or in combination (purple) in (a and b) NSCLC CDX NCI-H358 KRASG12C and (c and d) gastric cancer PDX STO#332 wild-type KRAS amplification (KRAS Amp, CN = 4) xenograft models in mice. Data represent (a and c) mean tumor volume over time or (b and d) waterfall plots of individual end of study responses with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 300% in d). In (a) and (c) data represent mean and error bars represent standard error of the mean. Each animal represented as a separate bar in (b and d). Number of animals per group = 10. Respective doses (in parentheses) of RMC-4630 (10 mg/kg) and cobimetinib (2.5 mg/kg) are lower than the corresponding maximally-tolerated dose for each agent. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group.

There are three important implications of these observations: first, the anti-tumor effects of RMC-4630 may be significantly greater in human cancers that are already predicted to be sensitive to SHP2 inhibition if RMC-4630 is combined with a MEK inhibitor. Second, the effects of the combination may be observed at doses or exposures of RMC-4630 or a MEK inhibitor that are significantly below the maximum tolerated dose for each agent. Third, there may be a higher probability of invoking tumor cell death with the combination, and thus seeing tumor regressions.

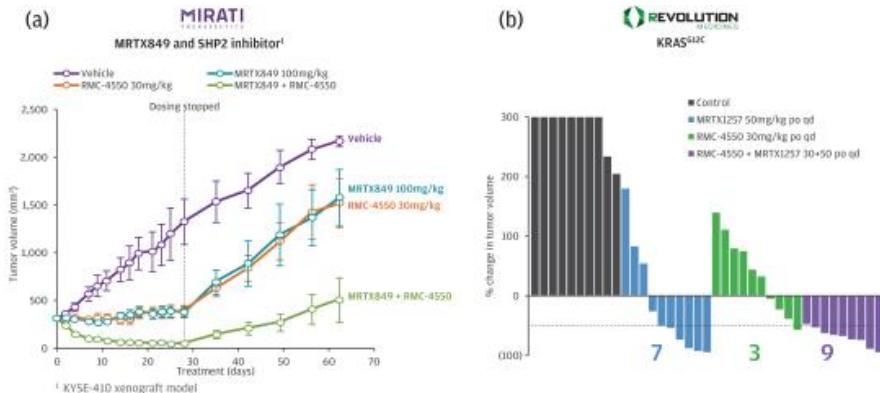
In addition, two of our academic collaborators have demonstrated that tumors with KRASG12D or KRASG13D mutations may be responsive to a SHP2 inhibitor combined with a MEK inhibitor. Based on their published results, the RMC-4630 and MEK inhibitor combination may be active in some tumors with mutations that may not be sensitive to SHP2 inhibition alone.

The combination of RMC-4630 and cobimetinib has been relatively well tolerated in preclinical studies. We have also sought to maximize potent anti-tumor activity of RMC-4630, and reduce potential side effects, by deploying an intermittent dosing schedule.

An academic collaborator has presented preclinical data on the combination of a SHP2 inhibitor and an ERK inhibitor, providing rationale for the potential clinical evaluation of the combination.

Recently reported initial clinical results from two KRASG12C(OFF) inhibitors suggest significant clinical benefit and provide strong pharmacologic validation of this oncogene as a cancer driver. Preclinical studies have demonstrated that KRASG12C(OFF) inhibitors also cause a rapid increase in signaling through RTKs that are typically SHP2-dependent. Thus, the magnitude and durability of effect of an inhibitor of KRASG12C(OFF) may be significantly increased when combined with a SHP2 inhibitor that disrupts signaling from the activated RTKs. Recent data have demonstrated that a combination of our proprietary SHP2 inhibitor with KRASG12C(OFF) inhibitors can drive significant tumor regression in two distinct KRASG12C driven tumor models that exhibit only partial anti-tumor responses to either compound alone (Figure 4).

Figure 4: Combination benefit for SHP2 inhibitor and KRASG12C(OFF) inhibitor in preclinical xenograft models of tumors harboring KRASG12C mutations.

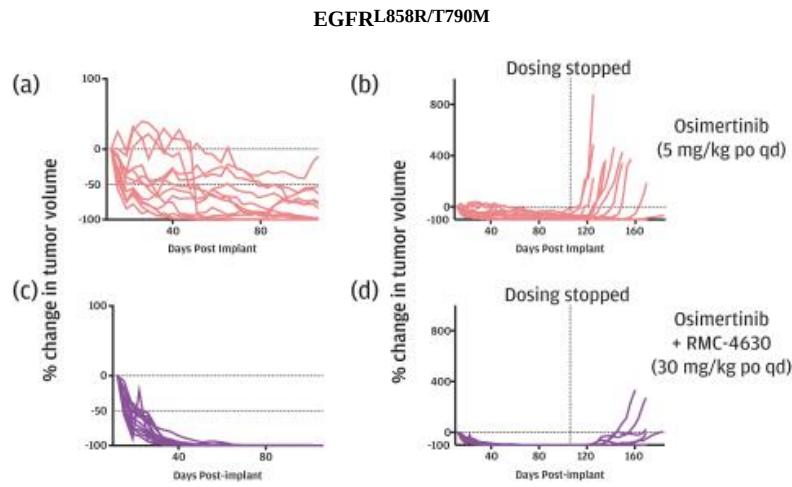


Anti-tumor activity of a representative SHP2 allosteric inhibitor (RMC-4550) and a KRASG12C(OFF) inhibitor (MRTX849 or MRTX1257) dosed daily by oral administration (po, qd) as single agents or in combination in (a) esophageal carcinoma KYSE-410 and (b) NSCLC NCI-H358 KRASG12C cell line-derived xenograft models in mice. Data represent (a) mean tumor volume over time or (b) waterfall plot of individual end-of-study responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 300%). Data in panel (a) taken from an August 2019 Mirati corporate presentation; show evidence for tumor regressions, in addition to reduced rate of tumor regrowth after 'dosing stopped', for the SHP2 plus KRASG12C(OFF) inhibitor combination group relative to either single agent group. For our data in panel (b) each animal is represented as a separate bar (number of animals per group = 10). Numbers indicate number of regressions (> 10% reduction in tumor volume from starting volume) in each group. RMC-4550 is a potent and selective SHP2 allosteric inhibitor tool compound (see Nichols et al., 2018). MRTX849 is Mirati's KRASG12C(OFF) clinical candidate and MRTX1257 is a potent and selective KRASG12C(OFF) inhibitor tool compound.

In approximately 25% of NSCLC in North and South America, EGFR is mutated and drives tumor growth. EGFR inhibitors are used to treat these types of lung cancer, but emergence of resistance is a clinical problem. With recently approved EGFR inhibitors such as osimertinib (marketed as Tagrisso by AstraZeneca), emergent resistance is frequently due to mutation or amplification of signaling proteins other than EGFR. Similar to the adaptive resistance pathways activated by MEK inhibitors, several of these escape drivers have been shown to signal through SHP2.

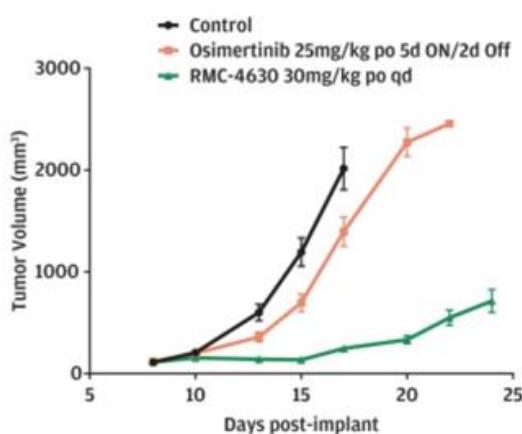
RMC-4630 enhanced the anti-tumor activity of osimertinib in preclinical models of osimertinib-sensitive and osimertinib-resistant EGFR-mutant tumors (Figures 5 and 6). RMC-4630 accelerated and increased the magnitude of tumor regression in an osimertinib-sensitive tumor and delayed and/or reduced tumor regrowth upon cessation of treatment in this model. RMC-4630 also inhibited tumor growth in a patient-derived tumor xenograft that had become resistant to osimertinib via amplification of the oncogene c-MET, an RTK that has been shown to drive some forms of cancer and that signals through SHP2. This suggests that, under circumstances where escape from osimertinib occurs via a SHP2-dependent mechanism, RMC-4630 may have clinical activity.

Figure 5: Combination benefit for RMC-4630 and the EGFR inhibitor, osimertinib, in an EGFR^{L858R/T790M} osimertinib-sensitive NSCLC xenograft model.



Anti-tumor activity of osimertinib (5 mg/kg) dosed daily by oral administration (po, qd) as a single agent (**a** and **b**) or in combination with RMC-4630 (30 mg/kg po, qd) (**c** and **d**) in NSCLC NCI-H1975 (EGFR^{L858R/T790M}) cell line-derived xenograft model in mice. Graphs show tumor volume data for individual animals, expressed as a percentage of initial tumor volume at time of study start (number of animals per group =12). Horizontal dotted lines reference the starting tumor volume (0%) and a 50% reduction in tumor volume. Vertical dotted line marks time at which dosing was stopped. Panels (**a** and **c**) show the same data as in (**b** and **d**) up to the time point of dosing cessation but on an expanded time scale.

Figure 6: RMC-4630 suppresses tumor growth in an osimertinib-resistant NSCLC patient-derived xenograft model (EGFR^{L858R/T790/METamplified}).



Daily oral administration of RMC-4630 (30 mg/kg po, qd) inhibits tumor growth in an osimertinib-resistant NSCLC patient-derived xenograft model (EGFR^{L858R/T790/METamplified}) wherein the EGFR^{T790M} allele was no longer detected and the patient tumor exhibited genomic amplification of the MET receptor tyrosine kinase. The human tumor xenograft model was implanted in immune deficient mice. Data represent mean and errors bars represent standard error of the mean. Number of animals per group = 10. Osimertinib 25 mg/kg, 5 days on/2 days off had no significant impact on tumor growth as anticipated.

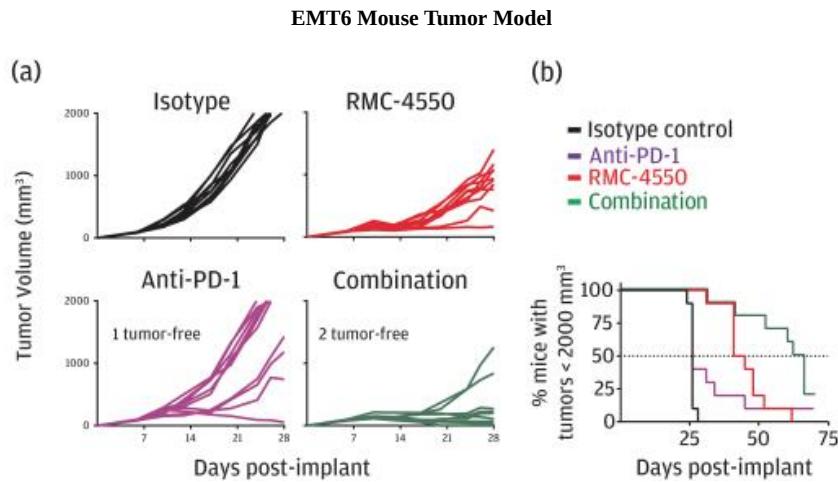
Rationale for combining with immune checkpoint inhibitors

Immune checkpoint inhibitors, such as inhibitors of PD-1, have been useful against a variety of tumor types, including melanomas, breast and lung cancers, certain types of colon cancer and bladder cancers. It has been proposed in the scientific literature that SHP2 interacts with the PD-1 receptor and mediates at least part of its immune suppressive signals. We have observed that SHP2 inhibition phenocopies some of the effects of PD-1 blockade in certain *in vitro* and *in vivo* models.

We have also seen that SHP2 inhibition inhibits the viability of pro-tumorigenic (M2) macrophages *in vitro*. In the tumor microenvironment *in vivo*, SHP2 inhibition reduced the number of M2 macrophages while also promoting increases in the anti-tumor M1 macrophages population. Therefore, RMC-4630 may increase the ability of the innate and adaptive arms of the immune system to control or even eradicate cancer cells. In models of cancer in immunocompetent mice, SHP2 inhibition activated the murine immune system to slow tumor growth, even in tumors that are not intrinsically sensitive to direct cellular effects of SHP2 inhibition. In preclinical models, the combination of a SHP2 inhibitor with an immune checkpoint inhibitor, such as a PD-1 inhibitor, occasionally induced an immune response that is sufficient for mice to ‘reject’ their tumors completely and elicit immunological memory.

Significant anti-tumor effects of SHP2 inhibition, both alone and in combination with PD-1 inhibition, were also observed in tumors intrinsically sensitive to SHP2 inhibition *in vitro* (Figure 7). A SHP2 inhibitor such as RMC-4630 may, therefore, elicit anti-tumor effects via two separate biologic mechanisms: targeted inhibition of RAS-dependent tumor growth, and liberation of anti-tumor immune responses by transformation of the tumor microenvironment.

Figure 7: Anti-tumor effects of SHP2 inhibition alone and in combination with PD-1 checkpoint blockade in the EMT6 syngeneic model.



RMC-4550 (30 mg/kg) was administered daily by oral administration for the duration of the study starting at day 6 post-implant; anti-PD-1 (10 mg/kg) was administered every three days by intra-peritoneal administration, for a total of 7 doses starting at day 6 post-implant, or a combination of both was administered to EMT6 tumor bearing immunocompetent mice. Control animals received the isotype control for the anti-PD-1 antibody. Data represent (a) tumor growth of individual mice for each experimental group and (b) Kaplan-Meier curves showing percentage of animals with tumor burden < 2000 mm³ in each treatment group for the duration of the study. RMC-4550 is a potent and selective SHP2 allosteric inhibitor tool compound. Number of animals per group = 10.

Development strategy

In summary, preclinical research suggests that RMC-4630 has the potential to cause significant anti-tumor effects:

- In tumors harboring certain mutations of the RAS signaling pathway;
- When administered at high doses on an intermittent basis;
- When given in combination with other targeted anti-cancer agents such as inhibitors of MEK, EGFR or mutated KRAS, such as KRASG12C; and
- If both the direct effects of SHP2 inhibition on cancer cells with RAS pathway mutations and activation of the immune system occur concurrently, which may be heightened through combination with a PD-1 inhibitor.

Although we are at an early stage of clinical testing and product candidate development, we believe RMC-4630 is well-positioned to become the backbone of targeted therapy combinations for the treatment of various RAS-dependent tumors (Figure 8).

Figure 8

| Tumors with RAS pathway mutations | Example | Near-term | Longer-term |
|---|--|---|---|
| Mutant-selective inhibitors available or in advanced clinical testing | KRAS ^{G12C} | RMC-4630 KRAS ^{G12C} (OFF) inhibitor (AMG 510) | RMC-4630 KRAS ^{G12C} (ON) inhibitor + Checkpoint inhibitor (PD-1) |
| | EGFR | RMC-4630 EGFR inhibitor (osimertinib) | RMC-4630 EGFR inhibitor (osimertinib) |
| Mutant-selective inhibitors unlikely to become available | NF1 ^{LOF} BRAF ^{Class3} | RMC-4630 MEK inhibitor (cobimetinib) | RMC-4630 MEK inhibitor (cobimetinib) + Checkpoint inhibitor (PD-1) |

Phase 1/2 clinical program

In collaboration with Sanofi, we are evaluating RMC-4630 in a multi-cohort Phase 1/2 clinical program. This RMC-4630 Phase 1/2 program currently consists of two active clinical trials: RMC-4630-01, a Phase 1 study of RMC-4630 as a single agent, and RMC-4630-02, a Phase 1b/2 study of RMC-4630 in combination with the MEK inhibitor cobimetinib.

RMC-4630-01 study of single agent RMC-4630 in patients with advanced solid tumors

RMC-4630-01 is a Phase 1 study in patients with advanced cancers, including those with tumors harboring genetically defined mutations in the RAS signaling pathway, that is evaluating the safety, pharmacokinetics and pharmacodynamic effects of RMC-4630 as a single agent under two different dose administration schedules: daily and twice weekly dosing. A preliminary evaluation of anti-tumor activity is also being made in patients who have tumors harboring mutations in the RAS pathway that are predicted to be sensitive to SHP2 inhibition, including KRAS^{G12C}, KRAS^{G12A}, NF1^{LOF}, and BRAF^{Class3} and others (e.g., KRAS^{amp}).

The RMC-4630-01 study was designed to evaluate two different schedules: a daily dosing schedule and an intermittent dosing schedule (Day 1 and Day 4 of every week). The intermittent schedule was intended to achieve intermittent target coverage which, in preclinical models, was associated with similar or superior activity and better tolerability. The RMC-4630-01 trial is currently being conducted at 12 clinical study sites in the United States.

As of the data cut-off on November 6, 2019, we reported the following preliminary data from RMC-4630-01:

In RMC-4630-01, 66 patients had been enrolled and 63 had received study drug and were evaluable for safety: 14 with the intermittent schedule and 49 with the daily schedule (Tables 1, 5 and 8). Dose escalation has been completed for the daily dosing schedule. Dose escalation continues using intermittent schedules. Preliminary data suggest that an intermittent schedule will be the preferred schedule for the further development of RMC-4630. Therefore, safety, tolerability and pharmacokinetic data for patients treated with intermittent schedules are reported separately from patients treated with the daily schedule.

Interim safety and tolerability – intermittent dosing schedule

Fourteen patients dosed with the intermittent schedule have been evaluated for safety after a median RMC-4630 exposure of 1.6 months (range 0.3-5.0 months). Demographic and baseline characteristics information is shown in Table 1.

Table 1: Demographics and baseline characteristics—intermittent schedule in RMC-4630-01 study.

| | 140 mg D1,D4 (n=8) | 200 mg D1,D4 (n=6) |
|--|-----------------------|-----------------------|
| Age, median (range) | 63 (47-82) | 69 (42-77) |
| Male (%) | 4 (50.0%) | 4 (66.7%) |
| Cancer Type | | |
| Lung (%) | 5 (62.5%) | 3 (50.0%) |
| Colon and/or Rectal (%) | — | 1 (16.7%) |
| Other (%) | 3 (37.5%) | 2 (33.3%) |
| ECOG performance status | | |
| 0 | 1 (12.5%) | 1 (16.7%) |
| 1 | 7 (87.5%) | 5 (83.3%) |
| Number of prior cancer therapies, median (range) | 6.5 (5-8) | NA |

Data as of November 6, 2019.

The emerging safety profile is consistent with the mechanistic effects of the product candidate on SHP2 and hence the RAS signaling cascade, including edema, reduced red cell production (low hemoglobin concentration and worsening of pre-existing anemia), reduced platelet production (thrombocytopenia), hypertension and fatigue. This safety profile was largely predictable from preclinical studies and clinical studies of other well-known inhibitors of this pathway. Treatment-related and emergent adverse events, or AEs, occurring in greater than or equal to 10% of patients are listed in Table 2. No related grade 4 or grade 5 AEs have been reported for this schedule. One treatment-related serious adverse event, or SAE, has been reported in a patient with pancreatic cancer receiving 200 mg twice weekly who was hospitalized with grade 3 abdominal distension (see Table 3); the SAE was unresolved at the time the patient withdrew from the study to transfer to hospice care.

Table 2: Related AEs occurring in ≥ 10% of dosed patients by grade—intermittent schedule in RMC-4630-01 study.

| Preferred term | Any grade | Grade ≥ 3 | Grade 1 | Grade 2 | Grade 3 | Grade 4 |
|--|-----------|-----------|-----------|-----------|-----------|---------|
| Anemia* | 5 (35.7%) | 2 (14.3%) | 1 (7.1%) | 2 (14.3%) | 2 (14.3%) | — |
| Fatigue | 5 (35.7%) | 1 (7.1%) | 4 (28.6%) | — | 1 (7.1%) | — |
| Thrombocytopenia** | 5 (35.7%) | — | 2 (14.3%) | 3 (21.4%) | — | — |
| Edema*** | 4 (28.6%) | — | 4 (28.6%) | — | — | — |
| Diarrhea | 3 (21.4%) | — | 3 (21.4%) | — | — | — |
| Abdominal distension | 2 (14.3%) | 1 (7.1%) | — | 1 (7.1%) | 1 (7.1%) | — |
| Blood creatine phosphokinase increased | 2 (14.3%) | — | 2 (14.3%) | — | — | — |
| Dry mouth | 2 (14.3%) | — | 2 (14.3%) | — | — | — |
| Neutropenia | 2 (14.3%) | — | 1 (7.1%) | 1 (7.1%) | — | — |

Data as of November 6, 2019.

* Includes hemoglobin count decrease.

** Includes platelet decrease.

*** Consists of eyelid edema, face edema, generalized edema, lip edema, edema, edema peripheral, periorbital edema and peripheral swelling.

Table 3: Related SAEs—intermittent schedule in RMC-4630-01 study.

| Preferred term | Number (%) | Dose | Grade | Outcome |
|----------------------|------------|--------|-------|---------|
| Abdominal distension | 1 (7%) | 200 mg | 3 | ongoing |

Data as of November 6, 2019.

Pharmacokinetics—intermittent dosing schedule

The pharmacokinetic profile of RMC-4630 after dosing on the intermittent schedule is shown in Table 4 and Figure 9. No accumulation from day 1 to day 15 was observed. Plasma exposure at both dose levels was within the range anticipated to be biologically active from preclinical models. After a single dose of 140 mg, the plasma concentration of RMC-4630 remained above the *in vivo* EC₅₀ for pERK for 72 hours. We estimate the half-life of RMC-4630 to be approximately 25 hours.

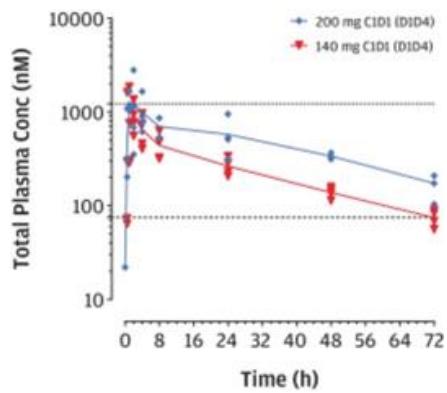
Table 4: Pharmacokinetics – intermittent schedule in RMC-4630-01 study.

| Study | Schedule | Dose | Cycle | Day | N(Cmax/AUC) | PK parameters [Mean(CV%)] | | | | | |
|----------------|----------------------|----------|-------|-----|-------------|---------------------------|---------------------------------|---------------------|-------------------------------|---------------------|---------------------------------|
| | | | | | | C _{max} | Median T _{max} (range) | AUC ₀₋₂₄ | Mean accumulation (AUC Ratio) | AUC ₀₋₇₂ | Median t _{1/2} (range) |
| | | | | | | μM | h | μM·h | (AUC Ratio) | μM·h | h |
| Mouse efficacy | | 10 mg/kg | | | | 0.98 | 1.5(1-2) | 6.44 | 10.6 (37) | 18.0 (28) | 25 (23-33) |
| | | 20 mg/kg | | | | 3.4 | | 11.7 | | NA | NA |
| RMC-4630-01 | Twice weekly (D1,D4) | 140 mg | 1 | 1 | 4/4 | 1.08 (48) | 1.5(1-2) | 10.6 (37) | 1.1 | NA | NA |
| | | 140 mg | 1 | 15 | 4/4 | 0.829 (36) | 3(2-4) | 11.3 (18) | 1.1 | NA | NA |
| | | 200 mg | 1 | 1 | 4/4 | 1.50 (59) | 2 (1-8) | 19.7 (47) | 36.0 (39) | 28 (22-37) | |
| | | 200 mg | 1 | 15 | 3/3 | 1.24 (20) | 4 (1-8) | 21.8 (35) | 1.1 | NA | NA |

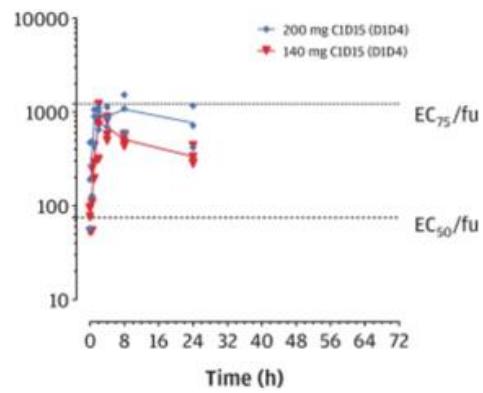
Data as of October 8, 2019.

Figure 9: RMC-4630 pharmacokinetics—intermittent schedule in RMC-4630-01 study.

PK C1D1



Steady state PK



Pharmacokinetic profile of RMC-4630 dosed at either 140 mg or 200 mg on D1 and D4 of each week. Steady state is considered to be day 15 of cycle 1. EC₅₀/fu and EC₇₅/fu are the total estimated plasma concentrations in humans that correspond to 50% and 75% inhibition of pERK in KRASG12C tumor models. Steady state in this instance is defined as at least five half lives after starting dosing at which time the pharmacokinetic profile of RMC-4630 on any given day would be considered to be representative of subsequent dosing days.

Interim safety and tolerability—daily dosing schedule

Forty-nine patients have been treated in RMC-4630-01 with the daily schedule. Median RMC-4630 exposure is 1.8 months (range 0.0-13.0 months). Demographic and baseline characteristics information is shown in Table 5.

Table 5: Demographics and baseline characteristics—daily schedule in RMC-4630-01 study.

| | 20 mg (n=12) | 40 mg (n=13) | 60 mg (n=18) | 80 mg (n=6) |
|--|-----------------|-----------------|-----------------|----------------|
| Age, median (range) | 62.5 (34-76) | 65.0 (45- 84) | 60.5 (47-82) | 62.0 (40-75) |
| Male | 9 (75.0%) | 8 (61.5%) | 9 (50.0%) | 1 (16.7%) |
| Cancer Type | | | | |
| Lung | 6 (50.0%) | 4 (30.8%) | 10 (55.6%) | 1 (16.7%) |
| Colon and/or Rectal | 3 (25.0%) | 5 (38.5%) | 5 (27.8%) | 3 (50.0%) |
| Other | 3 (25.0%) | 4 (30.8%) | 3 (16.7%) | 2 (33.3%) |
| ECOG performance status | | | | |
| 0 | 6 (50.0%) | 3 (23.1%) | 6 (33.3%) | 3 (50.0%) |
| 1 | 6 (50.0%) | 10 (76.9%) | 12 (66.7%) | 3 (50.0%) |
| Number of prior cancer therapies, median (range) | 3.0 (1-11) | 4.0 (2-10) | 5.0 (1-8) | 4.5 (1-8) |

Data as of November 6, 2019.

The ECOG (Eastern Cooperative Oncology Group) performance status is a scale often used to assess how a patient's disease is progressing.

Although both dosing regimens have been reasonably well tolerated, daily dosing has been associated with more frequent and severe AEs than the intermittent schedule. As with the intermittent schedule, the safety profile from the daily dosing schedule has been consistent with the mechanistic effects of the product candidate on SHP2 and the RAS signaling pathways. We have not determined a maximum tolerated dose for daily dosing, although dose escalation will not continue beyond the 80 mg daily level already evaluated. If further development with this schedule was pursued, we expect the recommended Phase 2 dose for the daily schedule would be 60 mg daily.

Treatment-related AEs occurring in greater than or equal to 10% of patients who received the daily schedule are shown in Table 6. No toxicities consistent with 'off-target' effects have been reported. Increases in liver enzymes such as alanine transaminase and aspartate transaminase have been observed at all grades. These have been attributed, wholly or in part, to RMC-4630 in 10% or 16% of patients treated with the daily schedule, respectively. In two patients, the increase in alanine transaminase or aspartate transaminase was either grade 3 or grade 4.

Table 6: Related AEs occurring in ≥ 10% of dosed patients by grade—daily schedule in RMC-4630-01 study.

| Preferred term | Any grade | Grade ≥ 3 | Grade 1 | Grade 2 | Grade 3 | Grade 4 |
|-------------------|------------|-----------|-----------|-----------|-----------|----------|
| Thrombocytopenia* | 14 (28.6%) | 7 (14.3%) | 4 (8.2%) | 3 (6.1%) | 6 (12.2%) | 1 (2.0%) |
| Diarrhea | 12 (24.5%) | 1 (2.0%) | 7 (14.3%) | 4 (8.2%) | 1 (2.0%) | — |
| Anemia** | 11 (22.4%) | 6 (12.2%) | 1 (2.0%) | 4 (8.2%) | 6 (12.2%) | — |
| Edema*** | 9 (18.4%) | 1 (2.0%) | 7 (14.3%) | 1 (2.0%) | 1 (2.0%) | — |
| AST increased | 8 (16.3%) | 2 (4.1%) | 4 (8.2%) | 2 (4.1%) | 1 (2.0%) | 1 (2.0%) |
| Fatigue | 8 (16.3%) | — | 3 (6.1%) | 5 (10.2%) | — | — |
| Hypertension | 7 (14.3%) | 4 (8.2%) | — | 3 (6.1%) | 4 (8.2%) | — |
| Nausea | 6 (12.2%) | — | 6 (12.2%) | — | — | — |
| ALT increased | 5 (10.2%) | 2 (4.1%) | 3 (6.1%) | — | 2 (4.1%) | — |
| Dry mouth | 5 (10.2%) | — | 5 (10.2%) | — | — | — |

Data as of November 6, 2019.

* Includes platelet count decrease.

** Includes hemoglobin decrease.

*** Consists of eyelid edema, face edema, generalized edema, lip edema, edema, edema peripheral, periorbital edema and peripheral swelling.

Eight patients treated with the daily schedule have experienced toxicities involving the lungs or respiratory system that were attributed in part to RMC-4630 by the treating investigator. These were generally moderate or mild. Two additional cases of grade 4 respiratory failure are discussed in more detail below in the description of SAEs. No data has been reported suggesting that systemic activation of the immune system is associated with toxicity in subjects treated with RMC-4630. There have been no reports of pneumonitis. Related adverse events involving other important organs such as the heart, brain and kidneys have been uncommon and generally mild to moderate in severity.

There have been three SAEs thought to be possibly or probably related to the study drug as assessed by the trial sponsor (Table 7). Three additional SAEs were reported in which the investigator was unable to rule out an association with the study drug, but where the evidence for causality by RMC-4630 was absent or considered unlikely by the study sponsor. One patient with extensive metastases of tumor in the lungs developed grade 4 respiratory failure and was hospitalized and treated with oxygen. The SAE was ongoing when the patient was withdrawn from the study. A second patient with fever and radiologic evidence of infectious pneumonia developed grade 4 respiratory failure and was treated with oxygen, systemic antibiotics and corticosteroids. The SAE was ongoing when the patient died due to progression of underlying cancer. A third patient developed a single reading of grade 3 prolongation of QTc. This patient had been receiving 60 mg daily of RMC-4630 but had not received any dose for three days at the time of the reading. The patient had a previous history of prolonged QTc, underlying systemic lupus, and was taking ondansetron. QTc was prolonged (grade 1) at baseline. Five hours after the prolonged QTc reading, the patient had two follow-up ECGs that showed normal QTc interval.

Table 7: Related SAEs—daily schedule in RMC-4630-01 study.

| Preferred term | Number (%) | Dose | Grade | Outcome |
|------------------------------|------------|-------------|-------|----------|
| Dehydration | 1 (2%) | 60 mg daily | 2 | Resolved |
| Anasarca (generalized edema) | 1 (2%) | 80 mg daily | 3 | Resolved |
| Thrombocytopenia | 1 (2%) | 80 mg daily | 4 | Unknown |

Data as of November 6, 2019.

Table 8: Early data suggest intermittent schedule may be better tolerated than daily schedule in RMC-4630-01 study.

| Related adverse events occurring in ≥10% of patients | Related AEs daily (N=49) | | Related AEs intermittent (N=14) | |
|--|--------------------------|-----------|---------------------------------|-----------|
| | Any grade | Grade ≥ 3 | Any grade | Grade ≥ 3 |
| Thrombocytopenia* | 14 (28.6%) | 7 (14.3%) | 5 (35.7%) | — |
| Diarrhea | 12 (24.5%) | 1 (2.0%) | 3 (21.4%) | — |
| Anemia** | 11 (22.4%) | 6 (12.2%) | 5 (35.7%) | 2 (14.3%) |
| Edema*** | 9 (18.4%) | 1 (2.0%) | 4 (28.6%) | — |
| Aspartate aminotransferase increased | 8 (16.3%) | 2 (4.1%) | 1 (7.1%) | — |
| Fatigue | 8 (16.3%) | — | 5 (35.7%) | 1 (7.1%) |
| Hypertension | 7 (14.3%) | 4 (8.2%) | 1 (7.1%) | — |
| Nausea | 6 (12.2%) | — | 1 (7.1%) | — |
| ALT increased | 5 (10.2%) | 2 (4.1%) | 1 (7.1%) | — |
| Dry mouth | 5 (10.2%) | — | 2 (14.3%) | — |
| Abdominal distention | 1 (2.0%) | — | 2 (14.3%) | 1 (7.1%) |
| Blood creatine phosphokinase increased | 1 (2.0%) | 1 (2.0%) | 2 (14.3%) | — |
| Neutropenia | 1 (2.0%) | 1 (2.0%) | 2 (14.3%) | — |

Data as of November 6, 2019.

* Includes platelet count decrease.

** Includes hemoglobin decrease.

*** Consists of eyelid edema, face edema, generalized edema, lip edema, edema, edema peripheral periorbital edema, and peripheral swelling.

Pharmacokinetics—daily dosing schedule

With daily dosing, plasma concentrations of RMC-4630 reached a steady state by day 22 (Table 9 and Figure 10). Plasma concentrations of RMC-4630 in the blood at all daily dose levels were consistently higher than the *in vivo* EC₅₀ for pERK in tumor models. Exposure increased approximately proportionally with increasing dose. The total exposure to RMC-4630 over a 24-hour period at 60 mg daily was 14.6 uM·hr. This is more than twice the exposure that has been required to see anti-tumor effects, particularly tumor stasis, in animal models (6.44 uM·hr).

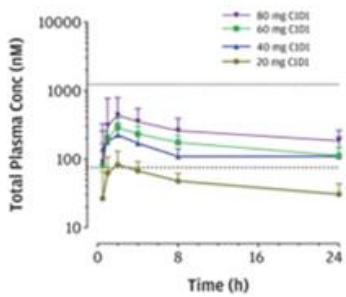
Table 9: Pharmacokinetics—daily schedule in RMC-4630-01 study.

| Study | Schedule | Dose | Cycle | Day | N(Cmax/AUC) | PK parameters [Mean(CV%)] | | | | | |
|----------------|----------|----------|-------|-----|-------------|---------------------------|--------------------------------|--|-------------------------------------|--|---|
| | | | | | | Cmax μM | Median Tmax (range) h | AUC ₀₋₂₄ μM ² h | Mean accumulation (AUC Ratio) | AUC ₀₋₇₂ μM ² h | Median t _{1/2} (range) h |
| Mouse efficacy | | 10 mg/kg | | | | 0.98 | | 6.44 | | | |
| | | 30 mg/kg | | | | 4.81 | | 22.8 | | | |
| RMC-4630-01 | QD | 20 mg | 1 | 1 | 12/11 | 0.0852 (54) | 2 (1-4.6) | 1.06 (40) | | NA | NA |
| | | 20 mg | 1 | 22 | 11/9 | 0.191 (36) | 2 (1-4) | 3.19 (37) | | | |
| | | 40 mg | 1 | 1 | 13/13 | 0.267(58) | 2 (0.5-24) | 3.14(48) | | | |
| | | 40 mg | 1 | 22 | 9/9 | 0.556 (54) | 4 (1-8) | 10.3 (53) | | | |
| | | 60 mg | 1 | 1 | 16/16 | 0.318 (29) | 2 (0.5-8) | 3.97 (24) | | | |
| | | 60 mg | 1 | 22 | 9/9 | 0.857 (45) | 2 (1-8) | 14.6 (44) | | | |
| | | 80 mg | 1 | 1 | 6/6 | 0.472 (84) | 3 (1-4) | 6.03 (56) | | | |
| | | 80 mg | 1 | 22 | 2/2 | 0.844 | 3 (2-4) | 13.9 | | | |

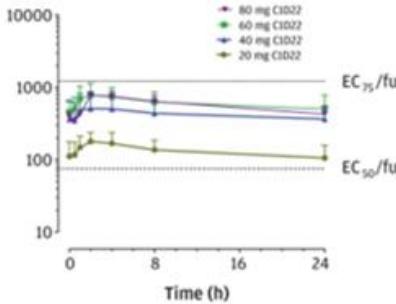
Data as of October 8, 2019. Number of patients evaluated for parameters Cmax and AUC are shown in N(Cmax/AUC) column.

Figure 10: Pharmacokinetics—daily schedule in RMC-4630-01 study.

PK C1D1



Steady state PK



Data as of October 8, 2019.

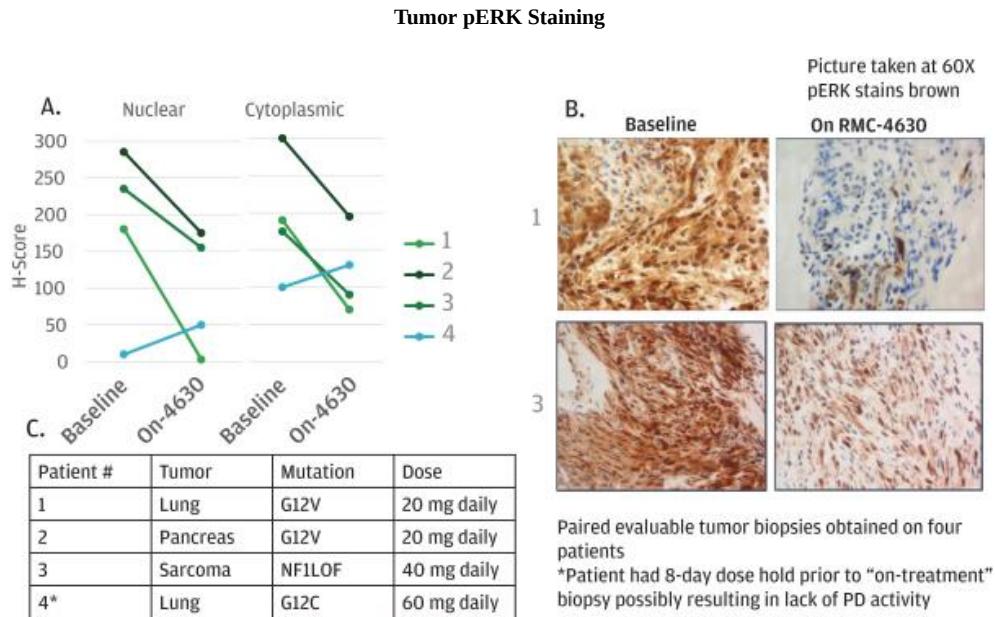
Pharmacokinetic profile of RMC-4630 dosed at either 20 mg, 40 mg, 60 mg or 80 mg daily. Steady state is considered to be day 22 of cycle 1. EC₅₀/fu and EC₇₅/fu are the total estimated plasma concentrations in humans that correspond to 50% and 75% inhibition of pERK in KRASG12C tumor models.

Pharmacodynamic effects of RMC-4630—daily and intermittent dosing schedules

Activation of the protein ERK, which is an important protein in the RAS signaling pathway and a substrate for MEK, is a good surrogate for the inhibition of pathway activity by a SHP2 inhibitor. The pharmacodynamic effects of RMC-4630 on activation of ERK were studied in the blood cells of patients being treated with RMC-4630. Despite considerable assay variability and inter-patient variability, which is common for these types of dynamic assays in patients, there was a trend in favor of inhibition of activated ERK in peripheral blood cells at all dose levels tested. These effects are consistent with engagement and inhibition of the SHP2 target and downstream RAS signaling by RMC-4630.

Phosphorylation of ERK has been assessed in tumors before and during RMC-4630 administration (Figure 11). In three cases, there was a reduction in phosphorylation of cytoplasmic and nuclear ERK in the tumor while RMC-4630 was at steady state. One patient's tumor showed no reduction in tumor pERK, but this tumor showed very little phosphorylation in the pre-treatment sample and the patient had not received any RMC-4630 for eight days prior to the second tumor biopsy.

Figure 11: pERK inhibition in tumors on RMC-4630 in RMC-4630-01 study.



Quantitation of phospho-ERK (pERK) in tumor tissue taken from patients treated with daily RMC-4630 at either 20 mg, 40 mg or 60 mg daily. Panel A represents the H score for pERK before and after dosing in four patients. H score is the product of percentage of tumor cells staining positive for pERK and the intensity of staining per cell. Both nuclear and cytoplasmic pERK are shown. Panel B shows the immunohistochemistry sections from which the H score is estimated. pERK stains brown. Panel C provides information for each patient on whom paired biopsies were obtained.

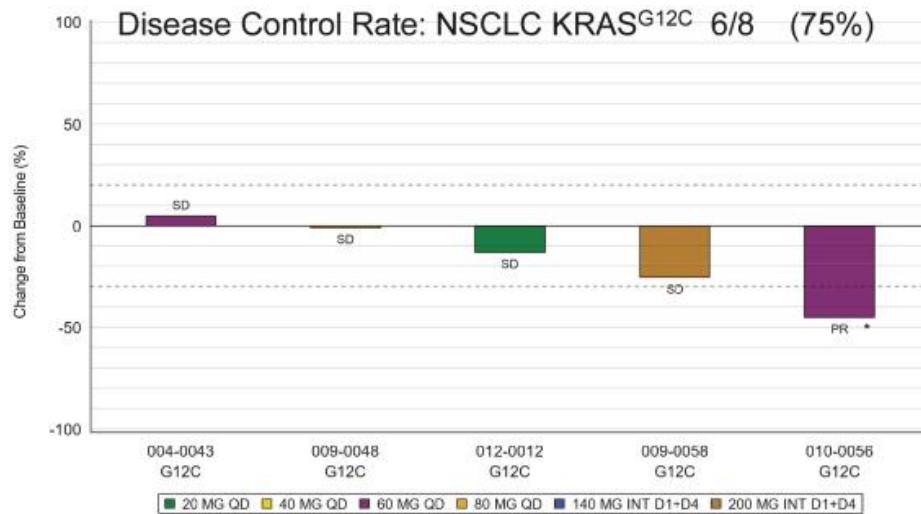
Allelic burden of circulating KRASG12C tumor DNA, or ctDNA, has been assessed prior to the study and at least once during the study in seven patients with tumors harboring KRASG12C. KRASG12C ctDNA was detected in four of seven patients prior to the study. In two patients, with NSCLC and either partial response or stable disease as best response, there was a reduction in circulating KRASG12C ctDNA. In one patient with colon cancer who had a progressive disease the allelic frequency of KRASG12C ctDNA increased.

Interim evidence of clinical activity—daily and intermittent schedules

There is preliminary evidence that RMC-4630 has single agent anti-tumor activity in KRAS mutant NSCLC. One patient, with KRASG12C NSCLC treated at 60 mg daily, had a confirmed partial response, with a 45% reduction in tumor volume as measured by CT imaging and is ongoing on study therapy at 16 weeks. A second, NSCLC patient with KRASG12D and a mutation in the SHP2 gene (SHP2V428M), treated with 140 mg on the intermittent schedule, had an unconfirmed partial response (unconfirmed by RECIST 1.1, recorded as best response of stable disease). Disease control rate, or DCR, the sum of best response of partial response and stable disease cases for patients with KRASG12C NSCLC as of the cut-off date was 6/8 (75%).

As of the cut-off date, five patients with KRASG12C NSCLC had follow-up CT scans of target lesions and had either partial response or stable disease (Figure 12); three patients had not reported follow-up measurements of target lesions, of which one has been recorded as best response of stable disease and two of progressive disease. For all patients with KRAS mutant NSCLC, DCR was 12/18 (67%) (Figure 13). One patient with KRASG12V NSCLC had been on treatment for over 14 months with stable disease (and approximately 15% reduction in tumor volume) as of the cut-off date. Duration of treatment, time to first and best response, duration of response and time to progression in NSCLC patients with any KRAS mutation are shown in Figure 14. In histotypes other than NSCLC, the best response as of the cut-off date was stable disease.

Figure 12: Best change in tumor burden from baseline in KRASG12C NSCLC in RMC-4630-01 study.



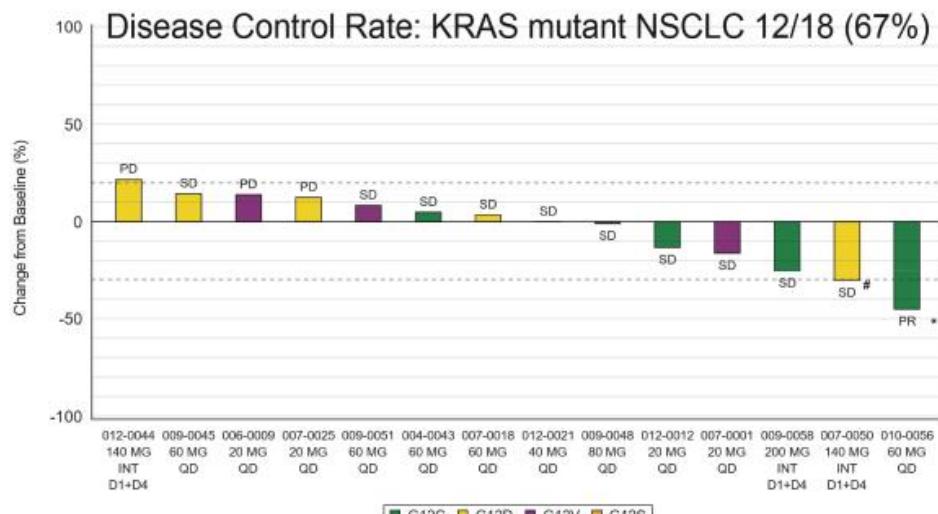
Data as of November 6, 2019.

Waterfall plot of best tumor response for five patients with KRASG12C NSCLC who had baseline target lesions assessed and at least one radiologic follow-up assessment of target lesion size. Percentage (Y axis) represents the percentage change from baseline in the Sum of Longest Diameters of target lesions using RECIST 1.1. Colors represent different dose levels.

* Confirmed PR

Data are presented for the efficacy evaluable population (N=8) defined as participants with baseline and at least one post-baseline scan or who died or had clinical progression prior to first post-baseline scan. Three patients are not represented in this figure: 2 PD (1 clinical progression and 1 did not have measurement for one of the target lesions but had new lesion) and 1 SD (pending data entry in EDC).

Figure 13: Best change in tumor burden from baseline for NSCLC with any KRAS mutation in RMC-4630-01 study.



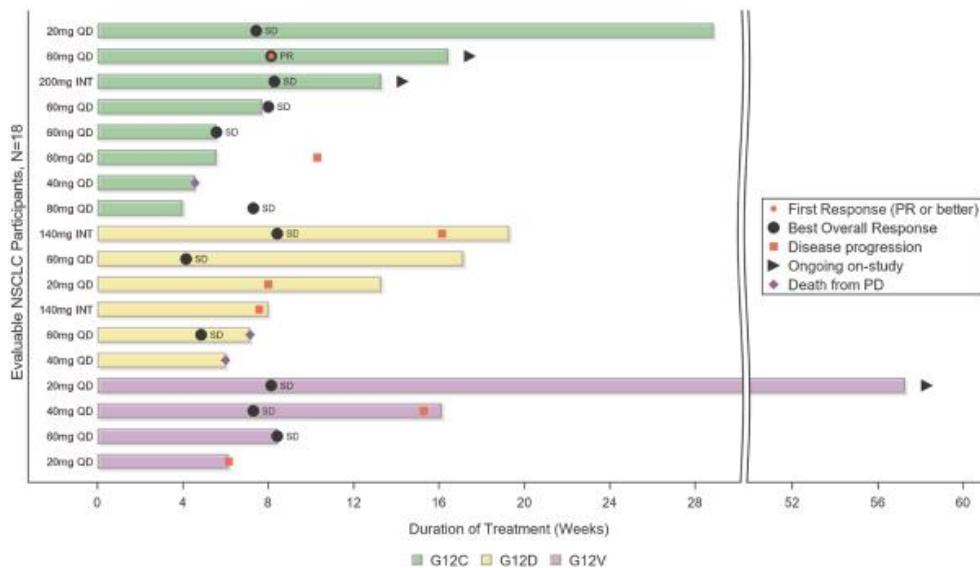
Data as of November 6, 2019.

Waterfall plot of best tumor response for fourteen patients with KRAS mutant NSCLC, including KRASG12C, who had baseline target lesions assessed and at least one radiologic follow-up assessment of target lesion size. Percentage (Y axis) represents the percentage change from baseline in the Sum of Longest Diameters of target lesions using RECIST 1.1. Colors represent different KRAS mutations. Data are presented for the efficacy evaluable population (N=18) defined as participants with baseline and at least one post-baseline scan or who died or had clinical progression prior to first post-baseline scan. Four patients are not represented in this figure: 2 patients had clinical progression prior to first scan, 1 patient did not have measurements for one of the target lesions but progressed developing new lesion, and 1 patient had missing tumor measurements in the database at the time of data extract.

* Confirmed PR

PR initially, subsequently unconfirmed

Figure 14: Duration of treatment, time to and duration of response in NSCLC with any KRAS mutation in RMC-4630-01 study



RMC-4630-02 study of RMC-4630 in combination with cobimetinib in patients with advanced solid tumors

RMC-4630-02 is a Phase 1b/2 study of RMC-4630 in combination with the MEK inhibitor cobimetinib in patients with advanced cancers that harbor mutations in the RAS signaling pathway. The study is designed to evaluate the safety, tolerability and pharmacokinetics of RMC-4630 and cobimetinib under two different dose administration schedules.

The objective of this study is to determine a recommended dose and schedule and further test clinical activity of the combination. Initially, the study assesses twice weekly RMC-4630 (D1,D4) with daily cobimetinib (21 days on, 7 off). In the second schedule, which has not begun dosing, both RMC-4630 and cobimetinib are dosed intermittently. A preliminary evaluation of anti-tumor activity is also being made.

At the latest data cut-off on November 14, 2019, 8 patients had been enrolled and all had received study medication at the first dose level and were evaluable for safety. Dose escalation to the next highest dose level has occurred and enrollment is ongoing.

Interim safety and tolerability

Eight patients have been evaluated for safety with a median RMC-4630 exposure of 1.4 months (range 0.1 – 2.5 months). Demographic and baseline characteristics information is shown in Table 10.

Table 10: Demographics and baseline characteristics for RMC-4630-02 study.

| | 80 mg 20 mg | RMC-4630 D1,D4 daily (N=8) | cobimetinib |
|--|----------------|-------------------------------------|-------------|
| Age, median (range) | | 61.5 (35.0 – 64.0) | |
| Male (%) | | 3 (37.5%) | |
| Cancer Type | | | |
| Lung (%) | | — | |
| Colon and/or Rectal (%) | | 5 (62.5%) | |
| Pancreatic (%) | | 2 (25.0%) | |
| Ovarian (%) | | 1 (12.5%) | |
| ECOG performance status | | | |
| 0 | | 5 (62.5%) | |
| 1 | | 3 (37.5%) | |
| Number of prior cancer therapies, median (range) | | 4 (2 – 6) | |

Data as of November 14, 2019.

The ECOG (Eastern Cooperative Oncology Group) performance status is a scale often used to assess how a patient's disease is progressing.

The emerging safety profile is consistent with the mechanistic effects of both SHP2 inhibition and MEK inhibition, including edema, diarrhea and other gastrointestinal toxicity, anemia and rash. This safety profile was largely predictable from single agent clinical studies of both agents.

Table 11: Related AEs attributed to RMC-4630 in RMC-4630-02 study.

| <u>Preferred term</u> | <u>Any grade</u> | <u>Grade 1</u> | <u>Grade 2</u> | <u>Grade 3</u> |
|----------------------------|------------------|----------------|----------------|----------------|
| Diarrhea | 2 (25.0%) | 2 (25.0%) | — | — |
| Edema* | 2 (25.0%) | 1 (12.5%) | 1 (12.5%) | — |
| Abdominal discomfort | 1 (12.5%) | 1 (12.5%) | — | — |
| Abdominal distension | 1 (12.5%) | — | 1 (12.5%) | — |
| Blood creatinine increased | 1 (12.5%) | 1 (12.5%) | — | — |
| Dry mouth | 1 (12.5%) | 1 (12.5%) | — | — |
| Leukopenia | 1 (12.5%) | 1 (12.5%) | — | — |
| Nephropathy | 1 (12.5%) | 1 (12.5%) | — | — |
| Rash | 1 (12.5%) | — | — | 1 (12.5%) |
| Rash maculo-papular | 1 (12.5%) | 1 (12.5%) | — | — |

Data as of November 14, 2019.

* Consists of eyelid edema, face edema, generalized edema, lip edema, edema, edema peripheral, periorbital edema and peripheral swelling.

Table 12: Related AEs attributed to cobimetinib in RMC-4630-02 study.

| <u>Preferred term</u> | <u>Any grade</u> | <u>Grade 1</u> | <u>Grade 2</u> | <u>Grade 3</u> |
|----------------------------|------------------|----------------|----------------|----------------|
| Edema* | 2 (25.0%) | 1 (12.5%) | 1 (12.5%) | — |
| Abdominal discomfort | 1 (12.5%) | 1 (12.5%) | — | — |
| Abdominal distension | 1 (12.5%) | — | 1 (12.5%) | — |
| Blood creatinine increased | 1 (12.5%) | 1 (12.5%) | — | — |
| Decreased appetite | 1 (12.5%) | 1 (12.5%) | — | — |
| Dizziness | 1 (12.5%) | 1 (12.5%) | — | — |
| Diarrhea | 1 (12.5%) | 1 (12.5%) | — | — |
| Leukopenia | 1 (12.5%) | 1 (12.5%) | — | — |
| Rash | 1 (12.5%) | — | — | 1 (12.5%) |
| Rash maculo-papular | 1 (12.5%) | 1 (12.5%) | — | — |

Data as of November 14, 2019.

* Consists of eyelid edema, face edema, generalized edema, lip edema, edema, edema peripheral, periorbital edema and peripheral swelling.

Pharmacokinetics

The pharmacokinetic profiles of RMC-4630 and cobimetinib are shown in Table 13 and Figure 14. Plasma levels of RMC-4630 were consistent with those obtained in the RMC-4630-01 study and were continuously greater than our predicted EC₅₀ for pERK inhibition in preclinical tumor models.

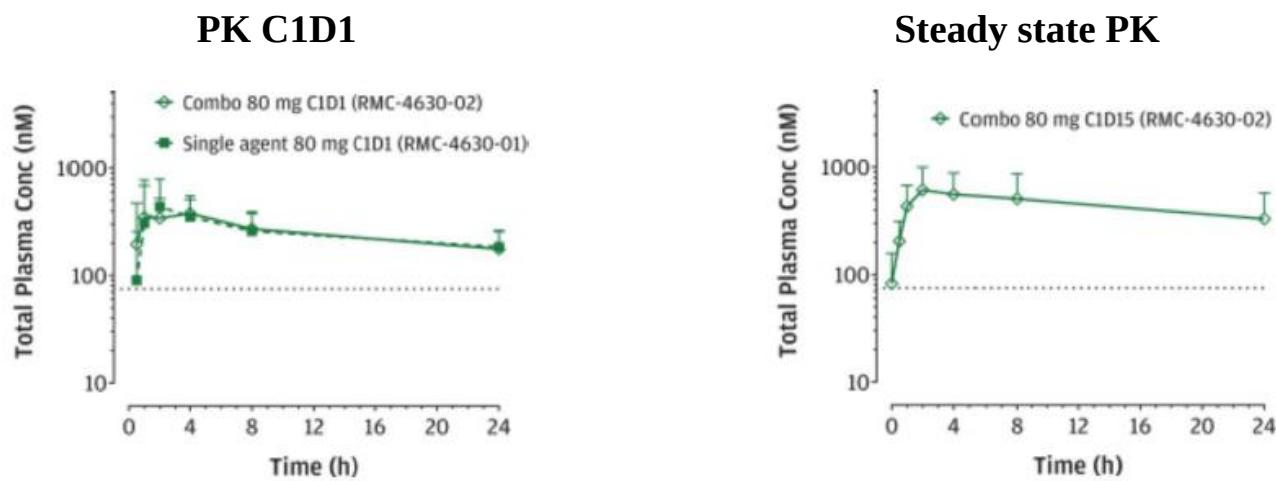
Table 13: Summary of pharmacokinetics in the RMC-4630-02 study.

| Study | Dose (mg) | | | | | | N(Cmax/AUC) | PK parameters [Mean(CV%)] | | | | Mean accumulation (AUC Ratio) |
|-------------|-----------|-------------|-------------|-------|-----|------------|---|---|-----------|-----|-----------|-------------------------------|
| | RMC-4630 | Cobimetinib | Analyte | Cycle | Day | Cmax μM | Median T _{max} (range) h | AUC ₀₋₂₄ μM ² ·h | | | | |
| RMC-4630-02 | 80 | 20 | RMC-4630 | 1 | 1 | 8/8 | 0.518 (47) | 3 (1-4) | 6.14 (35) | 1.7 | 10.7 (67) | 4.6 |
| | | | Cobimetinib | 1 | 1 | 5/5 | 0.657 (53) | 2 (1-4) | 1.55 (85) | | | |
| RMC-4630-01 | 80 | NA | RMC-4630 | 1 | 1 | 8/8 | 0.126 (71) | 2 (1-4) | 7.09 (51) | | | |
| | | | | | 15 | 5/5 | 0.374 (41) | 2.2 (1-8) | 6.03 (56) | | | |
| | | | | | 15 | 6/6 | 0.472 (84) | 3 (1-4) | 13.9 | | | |
| | | | | | 22 | 2/2 | 0.844 | 3 (2-4) | | | | 2.3 |

Data as of November 1, 2019.

Number of patients evaluated for parameters Cmax and AUC are shown in N(Cmax/AUC) column.

Figure 15: RMC-4630 pharmacokinetics in RMC-4630-02 study.



Data as of November 1, 2019.

Clinical activity

Only two patients have been evaluated for efficacy in this study. No efficacy data or ctDNA data were available in the electronic database as of the cut-off date.

Ongoing and planned clinical studies with RMC-4630

The RMC-4630-01 Phase 1 study is continuing to enroll patients to determine the maximum tolerated dose and recommended Phase 2 dose for the intermittent dosing schedule. Alternative intermittent schedules may be explored as part of the RMC-4630-01 study and these data may be translated to ongoing combination studies or future studies.

The RMC-4630-02 study, evaluating intermittent dosing of RMC-4630 in combination with cobimetinib, has been activated and dose escalation is ongoing.

In collaboration with others, during 2020, we intend to start dosing patients in Phase 1b studies evaluating the combination of RMC-4630 with the KRAS^{G12C}(OFF) inhibitor AMG 510, with the EGFR inhibitor osimertinib, and with a PD-1 inhibitor such as pembrolizumab (Figure 16).

Figure 16: Phase 1/2 planned clinical development program for RMC-4630.



Our RAS(ON) portfolio

Overview

We are also developing a portfolio of what we believe to be the first potent, selective and cell-active inhibitors of mutant RAS(ON) proteins. These inhibitors have also exhibited anti-tumor activity *in vivo* in preclinical models. We believe that direct inhibitors of RAS(ON) will suppress cell growth and survival as well as be less susceptible to adaptive resistance mechanisms recognized for RAS(OFF) inhibitors. Initially, we will prioritize four mutant RAS(ON) targets—KRAS^{G12C}, KRAS^{G13C}, KRAS^{G12D} and NRAS^{G12C}—and expect to nominate our first development candidate in 2020. We plan to evaluate our RAS(ON) inhibitors alone and in combination with other drugs and investigational new drugs, particularly in-pathway agents. Our proprietary tri-complex technology platform provides us the opportunity to build a portfolio of genetically targeted RAS(ON) inhibitors by discovering and developing compounds that target diverse oncogenic RAS mutants.

Challenges and limitations of current approaches for RAS mutant cancers

To our knowledge, every targeted therapy approved or in clinical development for the treatment of RAS-dependent cancers acts on targets that lie either upstream or downstream of RAS(ON) within the cellular signaling cascade. Historically, direct inhibition of any RAS protein has been challenging due to a lack of tractable, or “druggable,” binding pockets. However, selective inhibitors of the inactive GDP-bound, or “OFF” form, of KRAS^{G12C} are being developed by several companies. Recently reported initial clinical results from two RAS(OFF) inhibitors targeting mutant KRAS^{G12C} suggest significant clinical benefit and provide strong pharmacologic validation of this oncoprotein as a cancer driver. These results, along with other preclinical data, provide a compelling basis for our commitment to targeting oncogenic mutant forms of RAS(ON). We are not aware of any programs in clinical development that have successfully targeted any RAS(ON) protein. In tumor cells addicted to RAS(ON), we believe that selective inhibitors of RAS(ON) will suppress cell growth and survival and be less susceptible to adaptive resistance mechanisms recognized for RAS(OFF) inhibitors.

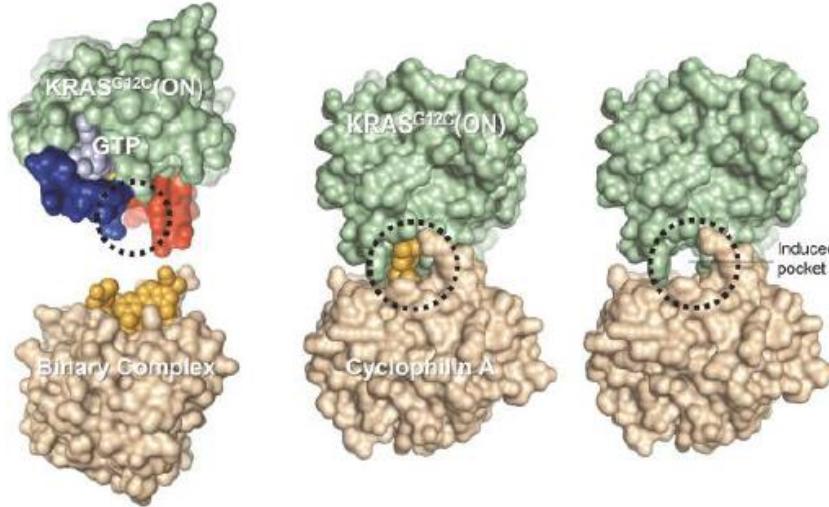
The key drug discovery challenge for any known RAS(ON) protein is the absence of a tractable drug binding site on these RAS(ON) proteins, including different RAS isoforms and mutants. One molecular site of particular focus has been a switch region protein shallow, solvent-exposed groove, or “valley,” that has been detected exclusively in the GTP-bound forms of RAS. Our proprietary tri-complex technology enables us to discover small molecule compounds that inhibit this site by inducing new druggable pockets. This approach is inspired by a biological phenomenon observed in nature, as exemplified by rapamycin. These tri-complexes exploit the surfaces of the two adjacent proteins to form a new ligand-binding pocket. The chaperone protein in the tri-complex helps to form the ligand binding site for the small molecule compound. Further, by physically participating in the tri-complex in the presence of the compound, the chaperone protein sterically occludes the target protein and prevents interaction with affiliated proteins required for propagating oncogenic signals.

Figure 17: KRAS^{G12C}(ON) inhibitor RM-009 drives formation of a tri-complex binding to an induced pocket at the interface between KRAS^{G12C}(ON) and cyclophilin A.

(a)

(b) Highly selective for **oncogenic GTP-bound** form of KRAS^{G12C}

(c)



Surface representation of atomic resolution crystal structures of KRASG12C (loaded with a non-hydrolysable analog of GTP in grey, gamma phosphate shown in yellow) (KRASG12C(ON), green) and a binary complex of RM-009 (ochre) and cyclophilin A (brown) (a). The shallow, solvent-exposed groove, or “valley,” between the switch I (blue) and switch II (red) regions of KRAS is highlighted. The cyclophilin A-RM-009 binary complex binds to KRASG12C(ON) to form a tri-complex (b) with RM-009 bound in an induced binding pocket at the interface between the two proteins, visible following digital removal of the ligand (c).

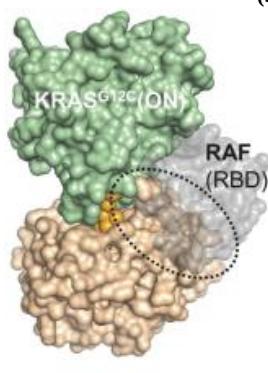
We design and synthesize novel RAS(ON) inhibitors that enter a cell and bind to the highly abundant chaperone protein cyclophilin A to create a “binary complex.” This binary complex presents a unique surface that has the molecular features needed to engage the RAS mutant of interest in a “tri-complex” with the inhibitor sandwiched in an induced binding pocket at the interface between the two proteins. This tri-complex is held together by chemical interactions between cyclophilin A and the respective RAS(ON) mutant and between the compound and each of the two proteins. In some instances, including in the case of cysteine-containing RAS mutants, our RAS(ON) inhibitors can form a covalent bond with RAS. We use our structure-based drug discovery capabilities to drive rational design and optimization of tri-complex inhibitors of RAS(ON).

Our RAS(ON) inhibitor programs

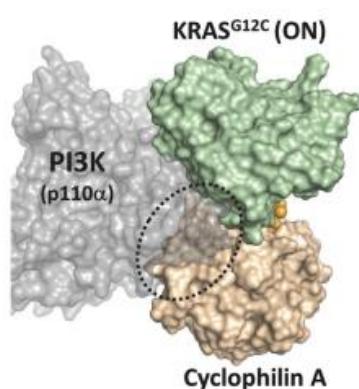
We are initially prioritizing four mutant RAS(ON) targets—KRAS^{G12C}, KRAS^{G13C}, KRAS^{G12D} and NRAS^{G12C}. We believe our tri-complex RAS inhibitors can act in three ways to suppress growth signaling: (1) we have demonstrated direct disruption of the critical RAS-RAF interaction that triggers the downstream portion of the growth signaling cascade. By extension, our RAS(ON) inhibitors likely also: (2) directly disrupt the RAS-PI3K interaction that stimulates mTOR-dependent growth signaling, and (3) prevent the binding of RAS to a recognized allosteric site of SOS1, thereby blocking a positive feedback loop that amplifies conversion of RAS(OFF) to RAS(ON). The first two effects represent direct suppression of oncogenic RAS signaling. The third effect may attenuate the ability of RAS(ON) to increase GTP-bound levels of other *non-mutant* forms, i.e. wild-type, of RAS in the same cancer cells that may contribute to overall cell survival and proliferation.

Figure 18: Layered structural models illustrating potential for tri-complex KRAS^{G12C}(ON) inhibitors to sterically preclude engagement of RAF, PI3K and SOS1 by KRAS^{G12C}(ON).

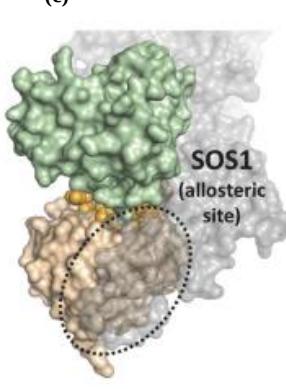
(a)



(b)



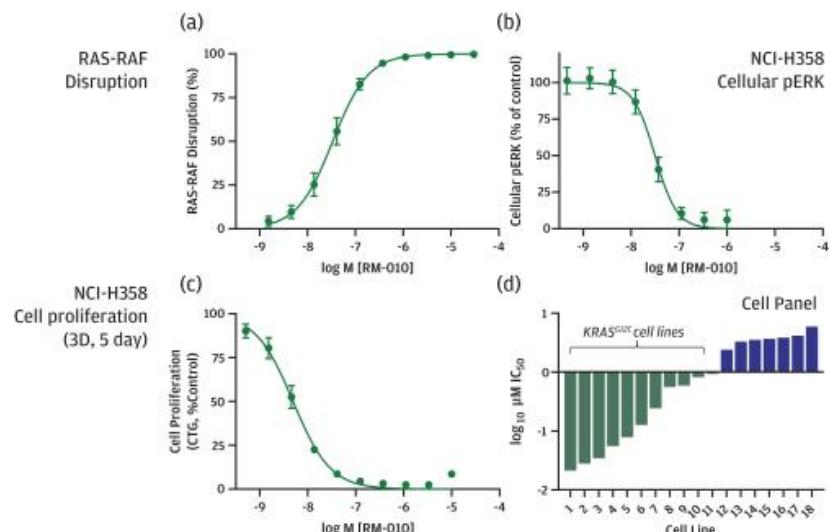
(c)



Surface representation of atomic resolution crystal structures of tri-complex of RM-009 with KRAS^{G12C}(ON) with structural overlays showing (in grey) interaction with (a) RAS binding domain (RBD) of BRAF, (b) p110 \geq catalytic subunit of PI3K and (c) allosteric site on SOS1.

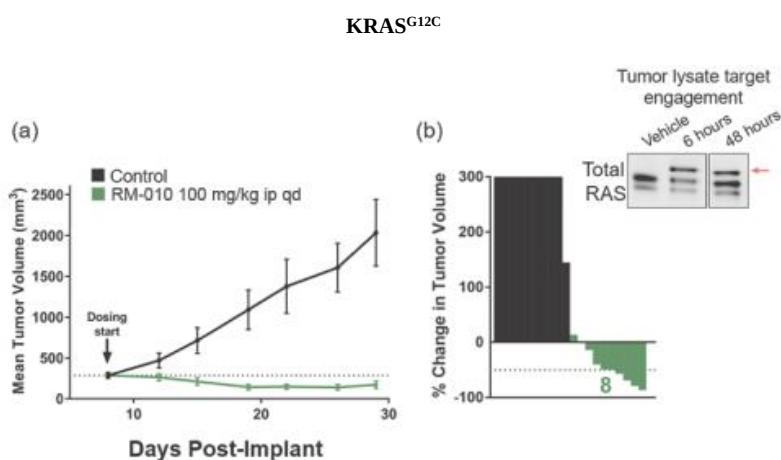
A representative KRAS^{G12C}(ON) tri-complex inhibitor causes concentration-dependent disruption of the interaction between KRAS^{G12C}(ON) and RAF-binding domain of BRAF (Figure 18). This inhibitor also penetrates KRAS^{G12C} mutant tumor cells and potently suppresses pERK levels and cell growth. Most tumor cells carrying this RAS variant are highly sensitive to the inhibitor, whereas none of those with mutations elsewhere in the pathway are sensitive to this inhibitor at pharmacologically relevant concentrations. We believe the range of sensitivities reflects the level of addiction of each specific cell line to KRAS^{G12C}(ON). *In vivo* administration of a representative KRAS^{G12C}(ON) tri-complex inhibitor (RM-010) drives tumor regressions in a KRAS^{G12C} tumor model following repeat dosing (Figure 19). Covalent cross-linking of RAS in the tumor, consistent with KRAS^{G12C} target engagement by this KRAS^{G12C}(ON) tri-complex inhibitor could be observed following administration of a single dose (Figure 20 inset). Anti-tumor activity with another KRAS^{G12C}(ON) tri-complex inhibitor was observed in multiple KRAS^{G12C} tumor models, as demonstrated by RM-015, which drove deep tumor regressions in preclinical xenograft models of both NSCLC and PDAC tumors harboring KRAS^{G12C} (Figure 21).

Figure 19: KRAS^{G12C}(ON) tri-complex inhibitor disrupts KRAS^{G12C}-RAF interaction; inhibits RAS pathway and proliferation *in vitro* in cells bearing KRAS^{G12C} mutation.



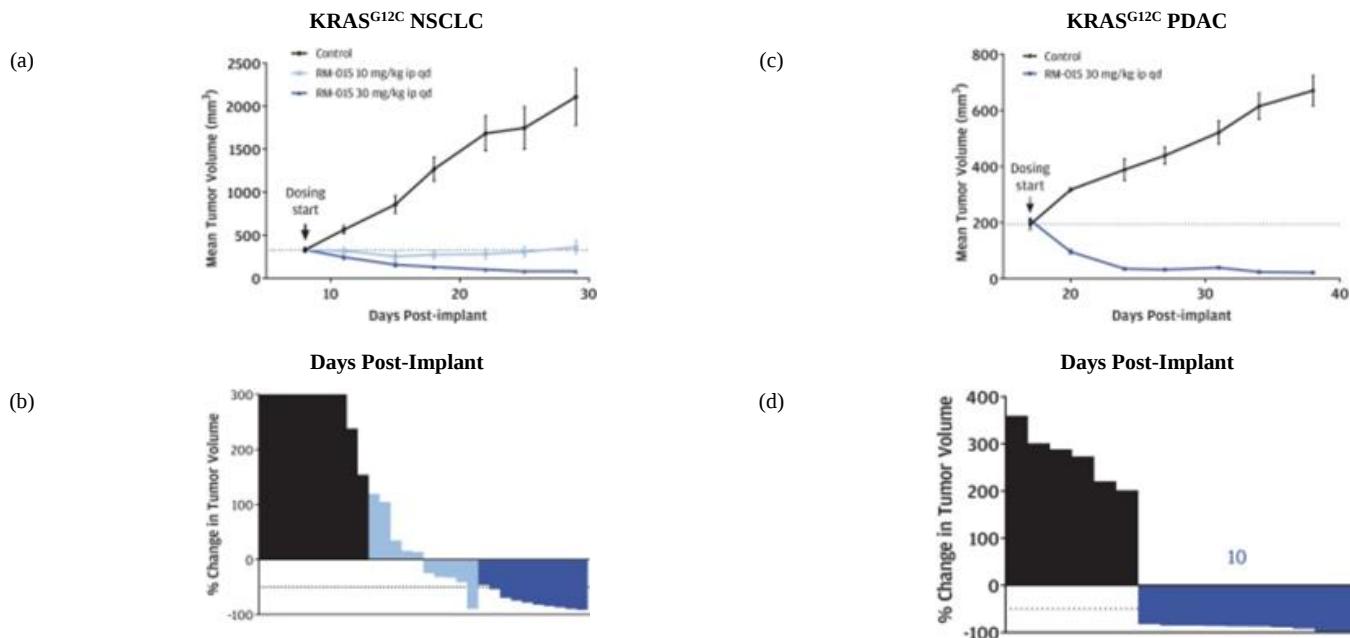
Biochemical characterization of the effect of KRAS^{G12C}(ON) tri-complex inhibitor RM-010 on the interaction between KRAS^{G12C} (loaded with a non-hydrolysable analog of GTP) and the RAS binding domain (RBD) of BRAF was performed using a TR-FRET assay (RAS-RAF disruption) (a). RAS pathway activity and cell proliferation in NSCLC NCI-H358 KRAS^{G12C} were monitored in 2D cell cultures using levels of ERK1/2 phosphorylation at Thr202/Tyr204 (cellular pERK) (b) and in 3D cell cultures using CellTiter-Glo CTG (cell proliferation) (c). RM-007 potency (expressed as the IC₅₀ in μM) for inhibition of proliferation of a panel of cell lines bearing KRAS^{G12C} mutations (green bars) or other non-KRAS^{G12C} mutations in the RAS pathway (blue bars) (d). Data shown in Figures a, b and c represent the mean of at least two independent studies, each performed in duplicate (error bars show the standard deviation). Data in Figure d are from a single study performed in triplicate.

Figure 20: Tri-complex KRAS^{G12C}(ON) inhibitor suppresses tumor growth in preclinical xenograft model of tumors harboring KRAS^{G12C}



Anti-tumor activity of RM-010 (100 mg/kg, intraperitoneal, daily; ip qd) in NSCLC CDX NCI-H358 KRAS^{G12C} xenograft model in mice. Data represent mean tumor volume over time (a) or waterfall plot of individual end of study responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 300%) (b). Number of mice per group = 10. In (a) data represent mean and error bars represent standard error of the mean. In (b) each animal is represented as a separate bar. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group. Inset, western blot for RAS in tumor lysates prepared from tumors harvested at 6 and 48 hours after administration of a single dose of RM-010 (100 mg/kg, ip) or vehicle to mice bearing NCI-H358 tumors. Data shown are from a single mouse (similar target engagement data were obtained using tumor samples from two additional mice at each time point shown, as well as from three additional mice treated for 24 hours).

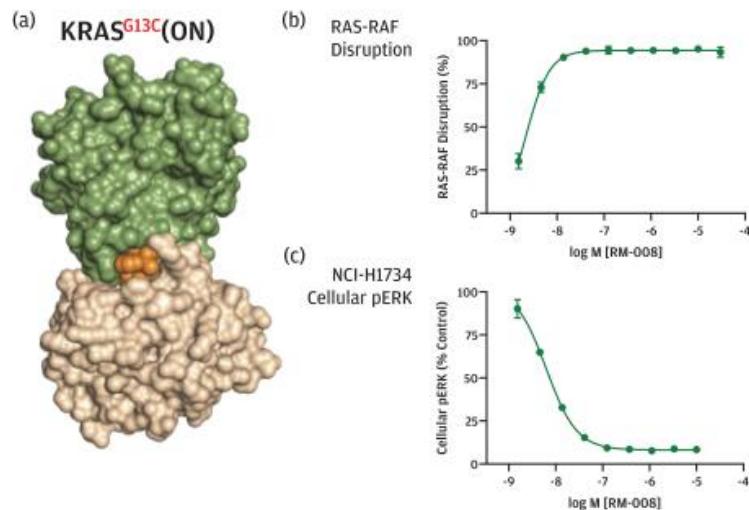
Figure 21: Tri-complex KRAS^{G12C}(ON) inhibitor drives tumor regressions in preclinical xenograft models of NSCLC and PDAC tumors harboring KRAS^{G12C}.



Anti-tumor activity of RM-015 (10 or 30 mg/kg, intraperitoneal, daily; ip qd) in NSCLC CDX NCI-H358 KRASG12C (a and b) and PDAC CDX NCI-H358 KRASG12C (c and d) xenograft models in mice. Data represent mean tumor volume over time (a and c) or waterfall plots of individual end of study responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 300% in b) (b and d). Number of mice per group = 10. In (a) and (c) data represent mean and errors bars represent standard error of the mean. In (b) and (d) each animal is represented as a separate bar. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group.

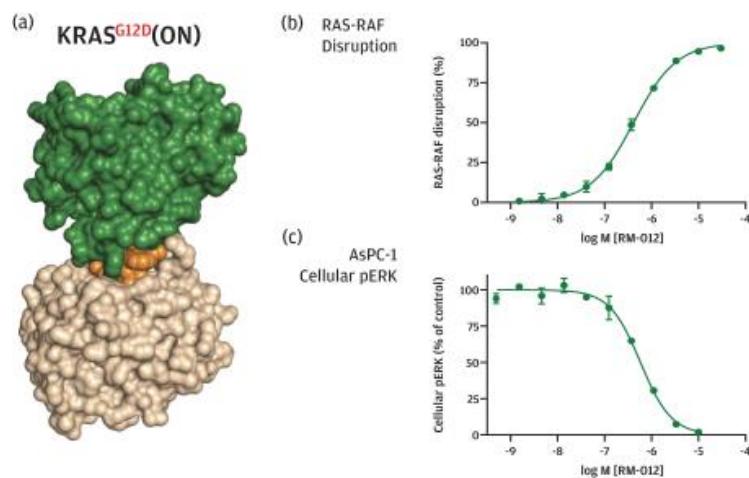
We are also able to leverage our findings with KRAS^{G12C}(ON) more broadly to facilitate identification of selective tri-complex inhibitors of other RAS(ON) mutants. We are developing inhibitors of several “hotspot” RAS(ON) mutants, with KRAS^{G13C}, KRAS^{G12D}, and NRAS^{G12C} as particular priorities. We have identified compounds with functional activity in biochemical and cellular assays that measure RAS signaling pathway activity and have representative data for all of these variants (Figures 22, 23 and 24). We have the ability to target different RAS isoforms (i.e., isoform hopping), such as KRAS and NRAS, different mutational hotspots (i.e., hotspot hopping), such as G12 and G13, and different amino acid residues at a given hotspot (i.e., residue hopping), as exemplified by G12C and G12D. We use a common inhibitory mechanism that underscores the versatility of our tri-complex technology platform. Employing this technology, we have the opportunity to generate a broad portfolio of novel RAS(ON) inhibitors with potentially differentiated clinical profiles for use by patients with different tumor genotypes.

Figure 22: KRAS^{G13C}(ON) tri-complex inhibitor RM-008 disrupts KRAS^{G13C}-RAF interaction and inhibits RAS pathway activity *in vitro* in cells bearing KRAS^{G13C} mutation.



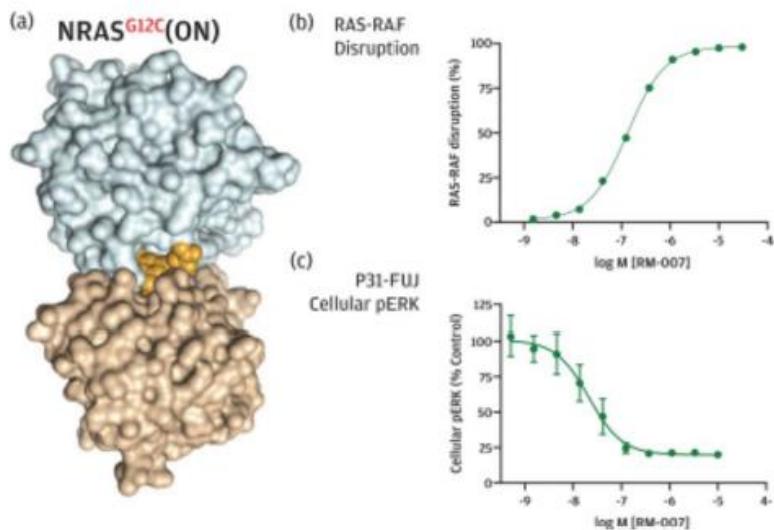
Surface representation of atomic resolution crystal structure of tri-complex of RM-008 with KRASG13C (loaded with a non-hydrolysable analog of GTP) and cyclophilin A (a). Biochemical characterization of the effect of KRASG13C(ON) tri-complex inhibitor RM-008 on the interaction between KRASG13C (loaded with a non-hydrolysable analog of GTP) and the RAS binding domain (RBD) of BRAF was performed using a TR-FRET assay (RAS-RAF disruption) (b). RAS pathway activity in NSCLC NCI-H1734 KRASG13C cells was monitored in 2D cell cultures using levels of ERK1/2 phosphorylation at Thr202/Tyr204 (cellular pERK) (c). Data shown in Figures b and c represent the mean of duplicate determinations (error bars show the standard deviation) from a single study. Data are representative of at least two independent studies, each performed in duplicate.

Figure 23: KRAS^{G12D}(ON) tri-complex inhibitor RM-012 disrupts KRAS^{G12D}-RAF interaction and inhibits RAS pathway activity *in vitro* in cells bearing KRAS^{G12D} mutation.



Surface representation of atomic resolution crystal structure of tri-complex of RM-012 with KRASG12D (loaded with a non-hydrolysable analog of GTP) and cyclophilin A (a). Biochemical characterization of the effect of KRASG12D (ON) tri-complex inhibitor RM-012 on the interaction between KRASG12D (loaded with a non-hydrolysable analog of GTP) and the RAS binding domain (RBD) of BRAF was performed using a TR-FRET assay (RAS-RAF disruption) (b). RAS pathway activity in pancreatic AsPC-1 KRASG13C cells was monitored in 2D cell cultures using levels of ERK1/2 phosphorylation at Thr202/Tyr204 (cellular pERK) (c). Data shown in Figures b and c represent the mean of duplicate determinations (error bars show the standard deviation) from a single study. Data in Figure c representative of at least two independent studies, each performed in duplicate.

Figure 24: NRAS^{G12C}(ON) tri-complex inhibitor RM-007 disrupts NRAS^{G12C}-RAF interaction; inhibits RAS pathway activity *in vitro* in cells bearing NRAS^{G12C} mutation.

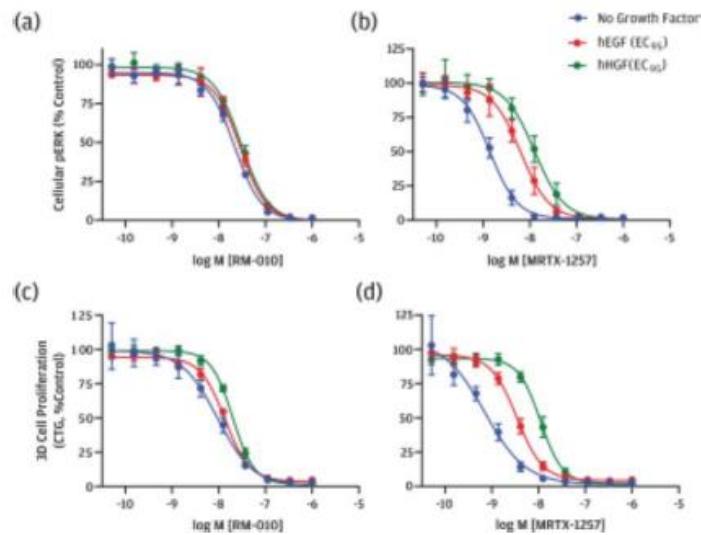


Surface representation of atomic resolution crystal structure of tri-complex of RM-007 with NRASG12C (loaded with a non-hydrolysable analog of GTP) and cyclophilin A (a). Biochemical characterization of the effect of NRASG12C (ON) tri-complex inhibitor RM-007 on the interaction between NRASG12C (loaded with a non-hydrolysable analog of GTP) and the RAS binding domain (RBD) of BRAF was performed using a TR-FRET assay (RAS-RAF disruption) (b). RAS pathway activity in AML P31-FUJ NRASG12C cells was monitored in 2D cell cultures using levels of ERK1/2 phosphorylation at Thr202/Tyr204 (cellular pERK) (c). Data shown in Figure b represent the mean of duplicate determinations (error bars show the standard deviation) from a single study. Data are representative of at least two independent studies, each performed in duplicate. Data shown in Figure c represent the mean of two independent studies, each performed in duplicate (error bars show the standard deviation).

Reduced susceptibility of RAS(ON) inhibitors to adaptive resistance mechanisms, such as RTK activation

In tumor cells that are addicted to high levels of RAS activation, we believe that selective inhibitors of RAS(ON) will suppress cell growth and survival and be less susceptible to adaptive resistance mechanisms recognized for RAS(OFF) inhibitors, specifically the KRASG12C(OFF) inhibitors that are currently in early clinical development. KRASG12C(OFF) inhibitors are susceptible to any cellular perturbations that reduce the intracellular pool of KRAS(OFF). Central to the differentiated profile of KRASG12C(ON) inhibitors is their relative insensitivity to cellular mechanisms that activate KRASG12C and thereby increase the pool of KRASG12C(ON) and decrease the pool of KRAS(OFF). We have demonstrated that the addition of growth factors to cells in order to directly activate RTKs (and hence increase the RAS(ON) pool) reduces the cellular potency of KRASG12C(OFF) inhibitors but has much less effect on cellular potency of KRASG12C(ON) inhibitors (Figure 25). These findings corroborate a previous published report that KRASG12C target engagement by a representative KRASG12C(OFF) inhibitor is significantly reduced by growth factor administration, consistent with the relative depletion of the therapeutic target.

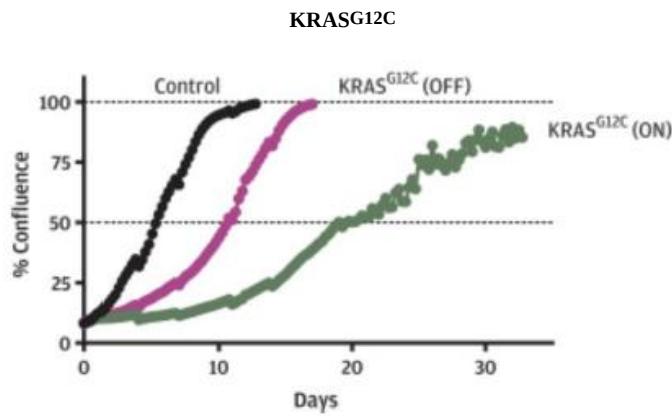
Figure 25: Differential susceptibility of KRAS^{G12C}(ON) and KRAS^{G12C}(OFF) inhibitors to the effects of RTK activation, via growth factor challenge, on inhibition of RAS pathway and cell proliferation *in vitro*.



RAS pathway activity and cell proliferation in NSCLC NCI-H358 KRAS^{G12C} cancer cells were monitored in 2D cell cultures using levels of ERK1/2 phosphorylation at Thr202/Tyr204 after 4 hours of compound incubation (**a** and **b**) and in 3D cell cultures using CellTiter-Glo (CTG) after 5 days of compound incubation (**c** and **d**). The effects of activation of EGFR and MET receptor, by addition of growth factor ligands human EGF (hEGF) and human HGF (hHGF) (at their EC₉₅ concentrations) respectively, on the inhibitory potency of the KRAS^{G12C}(ON) inhibitor RM-010 (**a** and **c**) and KRAS^{G12C}(OFF) inhibitor, MRTX1257 (**b** and **d**) is shown. Data shown in Figures a, b, c and d represent the mean of two independent studies, each performed in duplicate (error bars show the standard deviation).

Furthermore, using long-term proliferation studies *in vitro* to monitor cell proliferation over time, and by extension the durability of inhibitor effect, we have shown that the KRAS^{G12C}(ON) inhibitors produce more durable growth inhibition compared to KRAS^{G12C}(OFF) inhibitors (Figure 26). These data highlight the relative insensitivity of KRAS^{G12C}(ON) inhibitors *in vitro* to activation of adaptive resistance mechanisms, such as RTK activation, which can be exploited by a tumor cell in response to suppression of the RAS signaling pathway. We believe these findings may be clinically relevant since the durability of response to RAS signaling pathway inhibitors is generally accepted to be a key factor impacting anti-tumor activity.

Figure 26: Effects of tri-complex KRAS^{G12C}(ON) inhibitor or KRAS^{G12C}(OFF) inhibitors on long term cell growth *in vitro*.

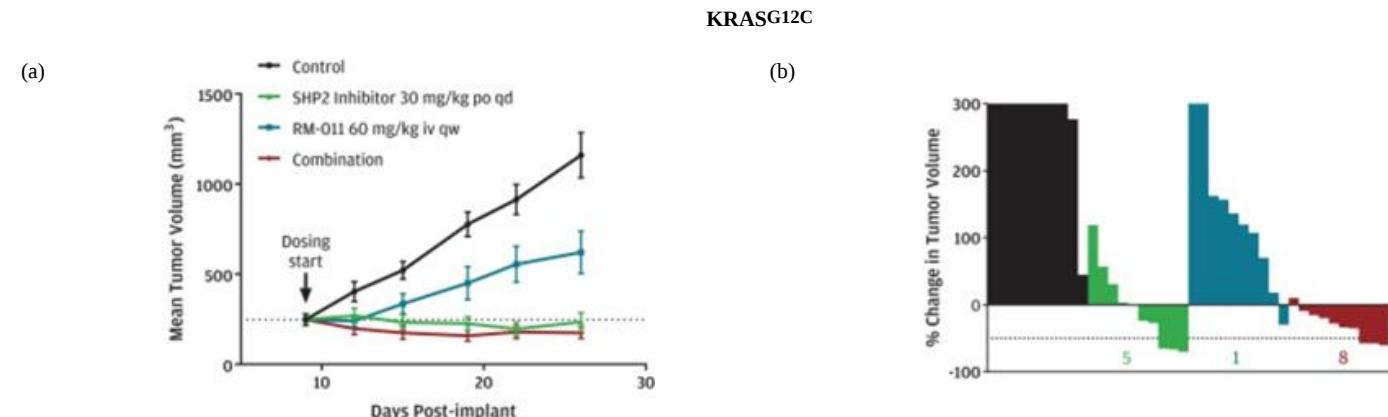


NSCLC NCI-H358 KRAS^{G12C} cancer cells were maintained in 2D cell culture and cell proliferation (expressed as % confluence) monitored over time using the Incucyte imaging platform. Cells were incubated in the absence (control, black) or presence of KRAS^{G12C}(OFF) (purple) or KRAS^{G12C}(ON) (green) inhibitors at equi-efficacious concentrations, that is concentrations that produced 75% inhibition of proliferation in short-term growth studies. Under control conditions cells reached 100% confluence within ~ 10 days. Addition of the KRAS^{G12C}(OFF) inhibitor tool compound, Mirati-11, inhibited cell growth, evident as an ~ 2-fold delay in the time to reach confluence (~ 20 days). In contrast, a representative KRAS^{G12C}(ON) inhibitor (RM-007) caused a more sustained suppression of cell proliferation and confluence was not achieved during the time course of the experiment (~ 35 days). Data are from a single experiment, similar data have been obtained in another independent study.

Combination strategy for KRASG12C(ON) inhibitors

The use of dual and even triple combination regimens to overcome adaptive resistance mechanisms to inhibitors of the RAS signaling pathway is well established based on clinical observations. We and others have demonstrated that robust combination benefit can be conferred in human cancer cell line xenograft models *in vivo* by combining a SHP2 inhibitor with a KRASG12C(OFF) inhibitor. Using the long-term proliferation model, we observed robust combination benefit *in vitro* from combining a SHP2 inhibitor and a KRASG12C(ON) inhibitor. While the molecular mechanism(s) underlying this combinatorial benefit has not been fully established, the combination of SHP2 inhibition and KRASG12C(ON) inhibitor does demonstrably increase apoptosis, or programmed cell death, in a KRASG12C cell line *in vitro*. Combination benefit was also observed *in vivo* for a SHP2 inhibitor and a KRASG12C(ON) inhibitor (Figure 27).

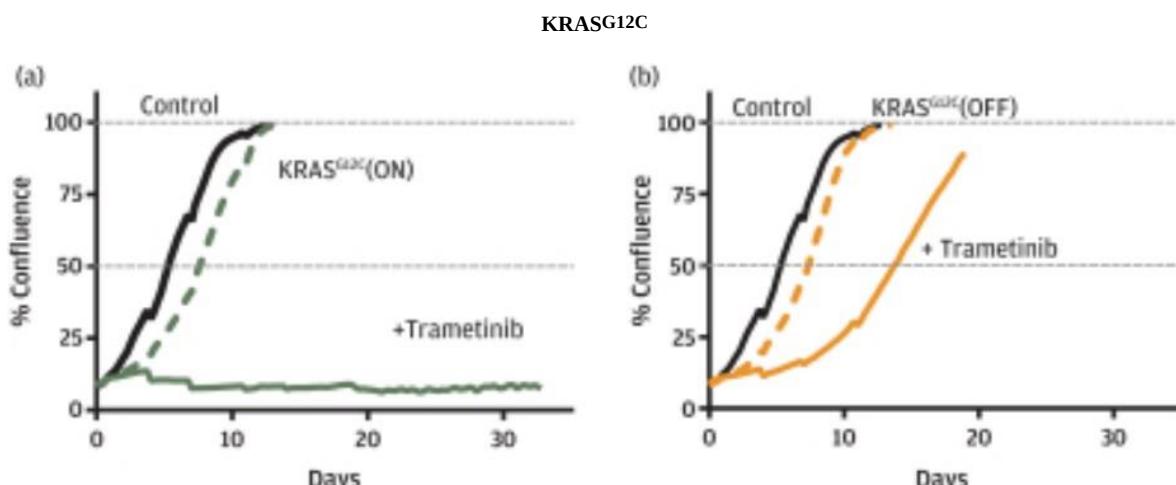
Figure 27: Combination benefit for tri-complex KRASG12C(ON) inhibitor and SHP2 inhibitor in preclinical xenograft model of tumors harboring KRASG12C mutations.



Anti-tumor activity of RM-011 (60 mg/kg, intravenous, once weekly; iv qw) and SHP2 inhibitor (RMC-4550) (30 mg/kg, oral, daily; po qd) as single agents or in combination in NSCLC CDX NCI-H358 KRASG12C xenograft model in mice. Data represent tumor volume over time (a) or waterfall plot of individual end of study responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 300%) (b). Number of mice per group = 10. In (a) data represent mean, errors bars represent standard error of the mean. In (b) each animal is represented as a separate bar. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group.

Another rational combination partner for a KRASG12C(ON) inhibitor is a MEK inhibitor. In the long-term *in vitro* proliferation model, dramatic combination benefit was demonstrated for a MEK inhibitor (trametinib) and a KRASG12C(ON) inhibitor (Figure 28). Complete and sustained inhibition of cell growth and substantial cell death were observed. These effects are in contrast to the relatively rapid escape observed with the combination of a KRASG12C(OFF) inhibitor and trametinib, in which cells reached full confluence within 20 days.

Figure 28: Effects of tri-complex KRASG12C(ON) inhibitor or KRASG12C(OFF) inhibitor alone and in combination with MEK inhibitor, trametinib, on long term cell growth *in vitro*.

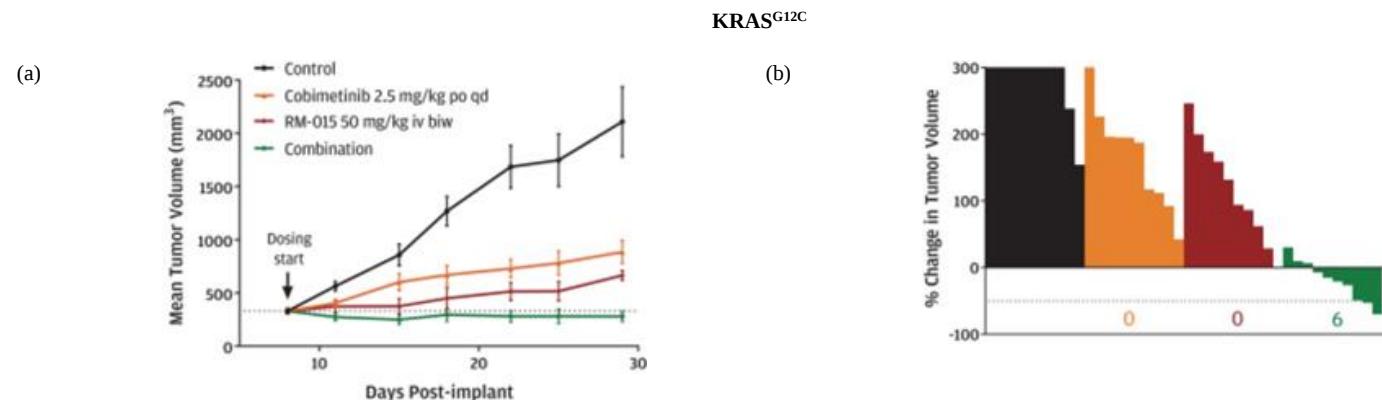


NSCLC NCI-H358 KRASG12C cancer cells were maintained in 2D cell culture and cell proliferation (expressed as % confluence) monitored over time using the Incucyte imaging platform. Cells were incubated in the absence (control, black) or presence of an EC50 concentration of test articles. (a) Addition of KRASG12C(ON) inhibitor (RM-007, dotted green line) produced a modest delay in the time for cells to reach 50% confluence, but the simultaneous addition of an EC50 concentration of the MEK inhibitor trametinib (solid green line) caused complete inhibition of cell growth and no viable cells were apparent during the time course of the experiment (~ 35 days). (b) Addition of a KRASG12C(OFF) inhibitor (Mirati-11, orange dotted line) produced a similar modest delay in the time for cells to reach 50% confluence and although the simultaneous addition of trametinib (solid orange line) caused a slight delay in cell proliferation, indicative of an initial combinatorial benefit, the cells escaped relatively quickly and approached full confluence within ~20 days. Data are from a single experiment, similar data have been obtained in another independent study.

These results can be interpreted within the framework of what is known regarding the mechanism of action of the respective compounds and their effects on RAS signaling pathway activity. Hyperactivation of RTKs accompanied by reactivation of RAS is a well-established response to MEK (or ERK) inhibition, reflecting relief of endogenous inhibitory feedback loops in the presence of the downstream inhibitor. Consistent with this hypothesis, others have shown that MEK inhibition reduces KRASG12C target engagement by a representative KRASG12C(OFF) inhibitor. In contrast, MEK inhibitor-induced activation of RAS does not antagonize the activity of a compound that inhibits KRASG12C(ON) directly; rather, in this context the complementary mechanisms of the two agents can drive maximal pathway inhibition, which manifests as cell death.

We also observed combination benefit for a KRASG12C(ON) inhibitor and a MEK inhibitor *in vivo* in a preclinical xenograft model of tumors harboring KRASG12C mutations (Figure 29).

Figure 29: Combination benefit for tri-complex KRASG12C(ON) inhibitor and MEK inhibitor in preclinical xenograft model of tumors harboring KRASG12C mutations.



Anti-tumor activity of RM-015 (50 mg/kg, intravenous, twice weekly; iv biw) and MEK inhibitor (cobimetinib) (2.5 mg/kg, oral, daily; po qd) as single agents or in combination in NSCLC CDX NCI-H358 KRASG12C xenograft model in mice. Data represent tumor volume over time (a) or waterfall plot of individual end of study responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 300%) (b). Number of mice per group = 10. In (a) data represent mean, errors bars represent standard error of the mean. In (b) each animal is represented as a separate bar. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group.

Drug discovery, optimization and development strategy

Initially, we intend to prioritize four mutant RAS(ON) targets in our drug discovery efforts—KRASG12C, KRASG13C, KRASG12D, and NRASG12C. Our current RAS(ON) drug discovery programs are in either a lead generation or lead optimization stage.

Similarly to “Rule of 5” drug discovery programs in the lead generation stage, in the lead generation stage for our RAS(ON) targets, we prosecute iterative cycles of compound design, synthesis and testing in various assays to identify specific chemical features that contribute to desired characteristics, such as potent and durable inhibition of the target, selectivity for the target of interest, physicochemical properties (for example, solubility) that support formulation, *in vivo* ADME (absorption, distribution, metabolism and excretion), intrinsic chemical stability, and tolerability *in vivo*. The lead optimization stage for our RAS(ON) targets involves further iterative cycles of compound design, synthesis and testing toward the goal of bringing these features together in individual compounds to meet development candidate profiles. As compounds advance through this process, they undergo progressive scrutiny through extensive preclinical tests both *in vitro* and *in vivo*, culminating in development candidate selection followed by IND-enabling studies conducted in accordance with regulatory guidelines.

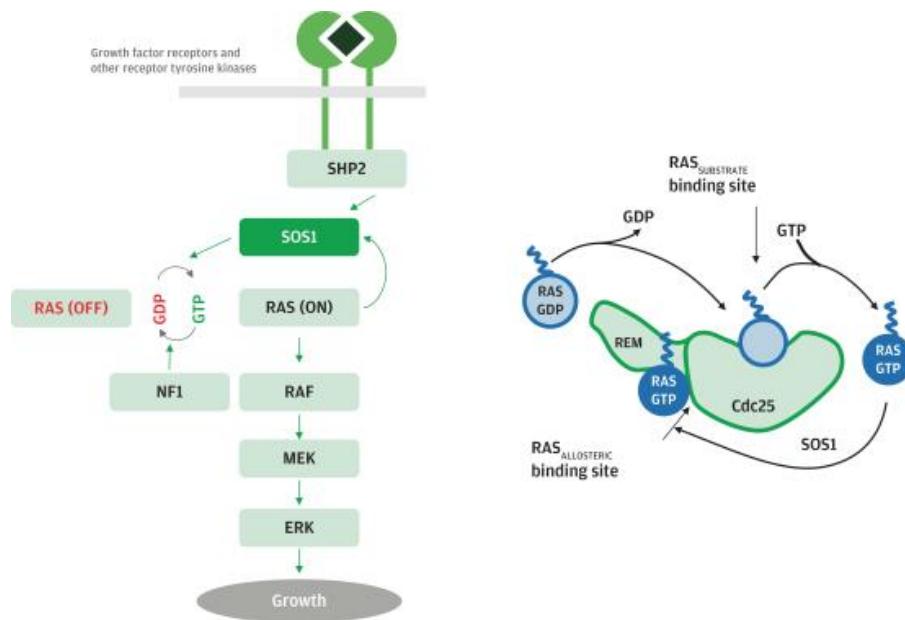
These iterative design-make-test cycles can be more challenging for complex “Beyond Rule of 5” small molecules such as our tri-complex inhibitors, and we have developed tools, processes and know-how to support practical drug discovery of these types of molecules. As for conventional “Rule of 5” drug discovery programs, our compounds produced during lead generation or optimization stages are expected to have a diverse range of properties. Some of these compounds will not meet our candidate profile and will be rejected while others will fulfill some of the characteristics of our candidate profile, and the features of such compounds will be retained where possible. To date approximately 2,000 different test compounds have been produced and characterized in various *in vitro* assays, with a subset of these characterized *in vivo* in rodents. The compounds reported in Figures 20, 21, 27 and 29 are examples of tri-complex KRAS(ON) inhibitors that have demonstrated *in vivo* anti-tumor activity in xenograft models of human cancers in mice and were generally well-tolerated as indicated by either minimal or no body weight loss and an absence of observable gross abnormalities in these studies. We have also identified compounds with unfavorable properties such as low *in vitro* potency for KRASG12C(ON), cross-reactivity with one or more well-known safety targets, low solubility, poor ADME properties, including lack of oral bioavailability, and poor tolerability. Adverse effects have been observed following administration of high doses of some compounds to rodents by one or more routes of administration. As these effects were seen with only certain compounds and did not extend across all studies, doses or routes of administration, we do not believe there is a generalized liability of the tri-complex platform or chemical scaffolds underlying our RAS(ON) inhibitor programs.

We believe our multiparameter optimization efforts will yield candidates that meet our development candidate profiles to be advanced into IND-enabling studies and clinical studies as appropriate and we expect to nominate our first RAS(ON) development candidate in 2020.

Our SOS1 program

The SOS1 protein is responsible for stimulating the conversion of RAS from the inactive GDP-bound form (RAS(OFF)) to the active GTP-bound form (RAS(ON)) in response to growth factor receptor signaling. SOS1 directly activates RAS proteins by promoting the release of the bound GDP and thereby facilitating the binding of GTP, which is present within a cell in great excess to GDP, to generate RAS(ON). SOS1 itself is activated by RAS through the binding of RAS(ON) to an allosteric site on the SOS1 protein (Figure 30). As a result, there is a positive feedback loop between SOS1 and RAS that increases RAS signaling. The activation of RAS by SOS1 is “processive”; that is, once a single molecule of SOS1 is activated it can sequentially activate multiple RAS molecules. As a result, the potential for amplification of RAS signals by SOS1 is considerable. Therefore, we believe that inhibition of SOS1 may represent a viable approach for targeting RAS-driven tumors.

Figure 30



We have designed and synthesized a number of potent and selective inhibitors of SOS1. The current focus of our discovery program is to improve the potency and drug-like properties of compounds in this series. We are investigating the potential utility of SOS1 inhibitors alone and in combination with our other proprietary inhibitors of RAS signaling, such as our SHP2 inhibitors and mutant-selective RAS(ON) inhibitors, in a wide range of *in vitro* and *in vivo* models of genetically-defined cancers that are addicted to the RAS signaling pathway.

Our 4EBP1/mTORC1 program

Overview

mTORC1 is a critical regulator of metabolism, growth and proliferation within cells, including cancer cells. The abnormal activation of mTORC1, and subsequent inactivation of the tumor suppressor 4EBP1, is a mechanism that is frequently harnessed by cancer cells to gain a growth and proliferation advantage over normal cells. Our preclinical development candidate, RMC-5552, selectively and deeply inhibits mTORC1, thereby preventing phosphorylation and inactivation of 4EBP1, a downstream protein in the mTOR signaling pathway that normally suppresses expression of certain oncogenes such as C-MYC. Approximately two-thirds of breast cancers contain oncogenic mutations that hyper-activate mTORC1. We advanced RMC-5552 into IND-enabling development in June 2019.

Preclinical studies

RMC-5552 is a potent and selective inhibitor of mTORC1, that exhibits selectivity over mTORC2 and a broad panel of kinases (Figure 31).

Figure 31: *In vitro* profile of RMC-5552

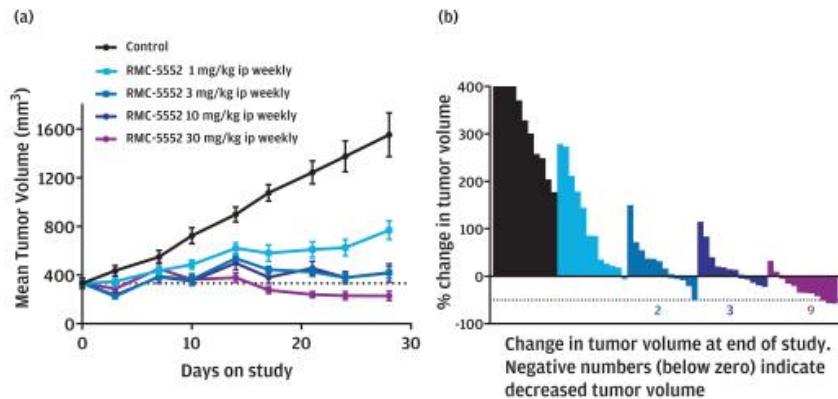
| | RMC-5552 |
|---|----------|
| Inhibition of mTORC1: pS6K | 0.14 nM |
| Inhibition of mTORC1: p4EBP1 ¹ | 0.48 nM |
| Selectivity over mTORC2: pAKT ² | 40X |
| Selectivity over kinases: e.g., PI3K ² | 53X |

In vitro potency for RMC-5552 to inhibit phosphorylation of mTORC1 (pS6K and p4EBP1) and mTORC2 (pAKT) substrates was determined in MDA-MB-468 cells. Data represent mean of at least two independent determinations. Selectivity over mTORC2 represents ratio of potency values for inhibition of AKT phosphorylation to inhibition of 4EBP1 phosphorylation. Selectivity over other kinases e.g. PI3K, represents ratio of potency values for inhibition of PI3K-alpha to mTORC1 in a biochemical, synthetic peptide phosphorylation assay. ¹ Rapamycin is not considered an inhibitor of 4EBP1 phosphorylation. ² Active site inhibitors are not considered selective over mTORC2 or other kinases.

In a xenograft model of human breast cancer in which an activating mutation in PIK3CA drives hyperactivation of the mTOR pathway, RMC-5552 inhibited tumor 4EBP1 phosphorylation at 48 hours-post intraperitoneal administration of a 3 mg/kg or 10 mg/kg dose by 71% and 63%, respectively. RMC-5552 induced significant regression of tumors when administered weekly via intraperitoneal injection at doses that were well tolerated (Figure 32). Inhibition of tumor growth was also seen in models of ovarian, liver, bladder and head and neck cancers that collectively bear activating mutations in the mTOR signaling pathway, are addicted to production of oncogenic proteins, and/or are dependent on inactivation or loss of 4EBP1.

Figure 32: RMC-5552 drives tumor regressions in a preclinical xenograft model of breast cancer tumors harboring PIK3CA mutations.

PIK3CA^{E545K}, ER⁺/HER2⁻

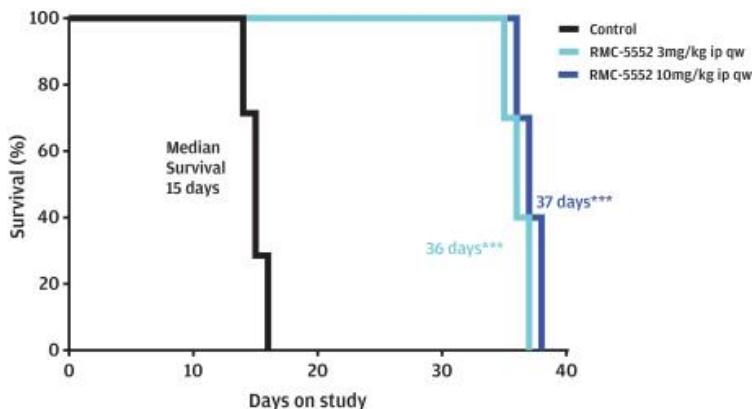


Once weekly intraperitoneal administration of RMC-5552 (3 mg/kg, 10 mg/kg or 30 mg/kg ip qw) produces a dose-dependent inhibition of tumor growth in breast cancer MCF-7 ER-positive (ER⁺), HER2-negative (HER2⁻), PIK3CA^{E545K} cancer cell line-derived xenograft model in mice. Data represent tumor volume over time (a) and waterfall plots of individual end of study responses with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 400%). (b). Number of mice per group = 12. In (a) data represent mean, errors bars represent standard error of the mean. In (b) each animal is represented as a separate bar. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group. Dotted line in panel (b) references 50% reduction in tumor volume.

We also tested RMC-5552 in the U87 cell line representing a human brain cancer, glioblastoma multiforme (Figure 33). In this model the tumors were implanted directly into the brains of immunodeficient mice to more accurately mimic the human disease. RMC-5552 was tested at two different doses, both of which were given once weekly via intraperitoneal injection. Because of the technical difficulties associated with measuring the size of tumors growing within the cranium, the main outcome measure for this experiment was duration of survival. RMC-5552 was well tolerated and prolonged survival at all doses tested.

Figure 33: RMC-5552 prolongs survival in a preclinical xenograft model of glioblastoma multiforme harboring PTENLOF.

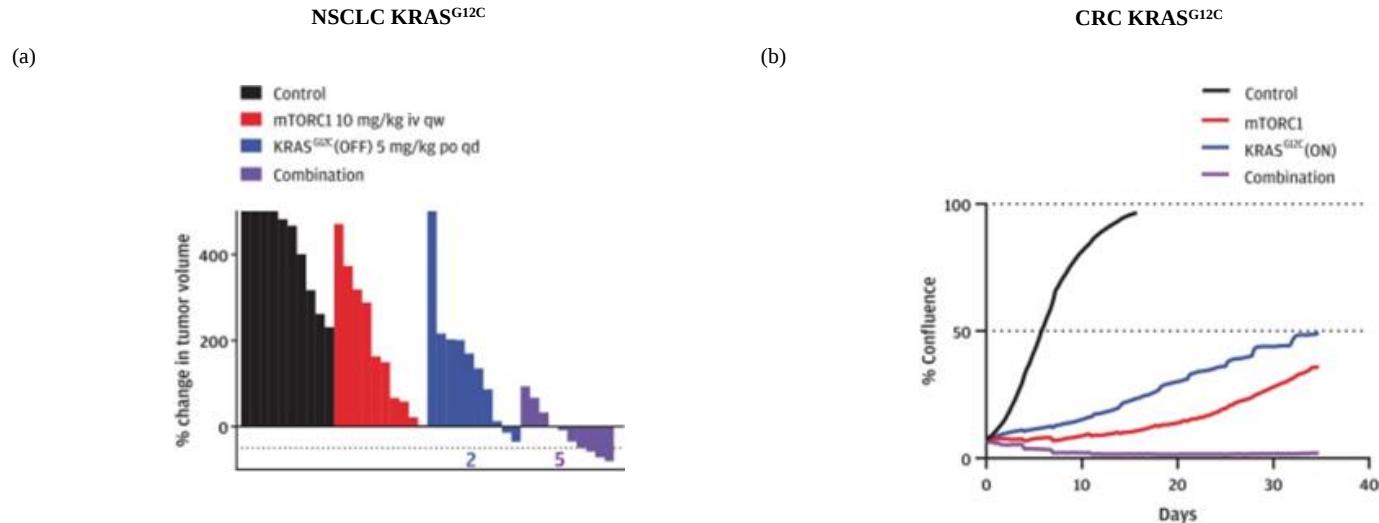
PTENLOF orthotopic glioblastoma model



Anti-tumor activity of RMC-5552 (3 mg/kg and 10 mg/kg once weekly intraperitoneal administration, ip qw), in a U87MG-Luc (PTENLOF) orthotopic glioblastoma model in mice. Data represent Kaplan–Meier curves showing percentage of animals meeting the survival endpoint in each treatment group for the duration of the study, number of animals per group = 10. RMC-5552 (3 mg/kg and 10 mg/kg (ip, qw) is statistically significantly different from control (**p<0.0001, Log-rank test).

As described earlier in this Annual Report on Form 10-K, RAS-addicted cancer cells can develop adaptive resistance to RAS pathway inhibitors and lose sensitivity to treatment by hijacking other cell signaling circuitry to circumvent the inhibition. In some cases this may involve activation of the mTOR signaling cascade. We have observed combination benefit for an mTORC1 inhibitor with KRAS^{G12C} (ON) and (OFF) inhibitors in preclinical models of NSCLC and CRC cancers harboring KRAS^{G12C} mutations (Figure 34). These preclinical data support further evaluation of KRAS^{G12C} inhibitors in combination with RMC-5552, both preclinically and potentially clinically. Based on the strength of our preclinical studies, we advanced RMC-5552 into IND-enabling development in June 2019. We expect to be ready to submit an IND for RMC-5552 in 2020.

Figure 34. Combination benefit for mTORC1 inhibitor with KRAS^{G12C} inhibitors in preclinical models of cancers harboring KRAS^{G12C} mutations.



Combination benefit between an mTORC1 inhibitor and KRAS^{G12C} inhibitor was explored in NSCLC (a) and CRC (b) cancer cells harboring KRAS^{G12C} mutations. (a) Anti-tumor activity of mTORC1 inhibitor (RM-006 at 10 mg/kg, intravenous, once weekly; iv qw) and KRAS^{G12C}(OFF) inhibitor AMG-510 (5 mg/kg, oral, daily; po qd) as single agents or in combination in NSCLC CDX NCI-H358 KRAS^{G12C} xenograft model in mice. Data represent waterfall plot of individual end of study responses, with tumor volume expressed as a percentage of initial tumor volume at time of study start (truncated at 450%). Number of mice per group = 10. Each animal is represented as a separate bar. Numbers indicate number of regressions (defined as > 10% reduction in tumor volume from starting volume) in each group.

b) CRC SW837 KRAS^{G12C} cancer cells were maintained in 2D cell culture and cell proliferation (expressed as % confluence) monitored over time using the Incucyte imaging platform. Cells were incubated in the absence (control, black) or presence of an mTORC1 inhibitor (RM-006, 10 nM) or KRAS^{G12C}(ON) inhibitor (RM-015, 1 μM). Incubation with the mTORC1 inhibitor (red) or KRAS^{G12C}(ON) inhibitor (blue) alone delayed the time for the cells to reach 50 % confluence. However, the simultaneous addition of the two inhibitors caused complete inhibition of cell growth and no viable cells were apparent during the time course of the experiment (~ 35 days). Data are from a single experiment, similar data have been obtained in another independent study. RM-006 is a proprietary mTORC1 inhibitor tool compound.

Commercial plan

We intend to retain significant development and commercialization rights to our product candidates and, if marketing approval is obtained, to commercialize our product candidates on our own, or potentially with a partner, in the United States and other regions. Our most advanced product candidate, RMC-4630, is the subject of a global collaboration with Sanofi. Unless otherwise delegated to us by the joint commercialization committee, Sanofi has the sole right and responsibility for all aspects of the commercialization of SHP2 inhibitors in the world for any and all uses, at its expense, subject to our right to elect to co-promote SHP2 inhibitors in the United States. In the United States, we will share equally with Sanofi the profits and losses applicable to commercialization of SHP2 inhibitor products. Sanofi is responsible for manufacturing SHP2 inhibitors for commercial supply and is expected to lead commercialization efforts through a joint commercialization committee representing the partners. We currently have no sales, marketing or commercial product distribution capabilities. We intend to build the necessary infrastructure and capabilities over time for the United States, and potentially other regions, following further advancement of our product candidates. Clinical data, the size of the addressable patient population, the size of the commercial infrastructure and manufacturing needs, and the status of our pipeline, may all influence or alter our commercialization plans.

Collaboration agreement with Sanofi

In June 2018, we entered into a collaborative research, development and commercialization agreement with Aventis, Inc. (an affiliate of Sanofi), or the Sanofi Agreement, to research and develop SHP2 inhibitors, including RMC-4630, for any indications. The Sanofi Agreement was assigned to Genzyme Corporation, a Sanofi affiliate, in December 2018. For the purposes of this discussion, we refer to Genzyme Corporation as Sanofi. Pursuant to the Sanofi Agreement, we granted Sanofi a worldwide, exclusive, sublicensable (subject to our consent in certain circumstances) license under certain of our patents and know-how to research, develop, manufacture, use, sell, offer for sale, import and otherwise commercialize SHP2 inhibitors, including RMC-4630, for any and all uses, subject to our exercise of rights and performance of obligations under the Sanofi Agreement. Such intellectual property exclusively licensed to Sanofi includes our interest under any of our solely-owned or jointly-owned inventions arising out of activities undertaken pursuant to the development of SHP2 inhibitor product candidates under the Sanofi Agreement.

Under the Sanofi Agreement, we have primary responsibility for performing preclinical research on SHP2 inhibitors, pursuant to an initial research plan and budget directed toward the identification, validation and optimization of SHP2 inhibitors for 2018-2020. The research plan and budget beyond 2020 will be determined by a joint research and development committee, over which Sanofi has final decision-making power subject to certain exceptions. We have primary responsibility for early clinical development of RMC-4630 pursuant to an initial development plan. The joint research and development committee is responsible for preparing development plans for other SHP2 inhibitors approved by such committee for development, if any. Sanofi is responsible for 80% of all internal and external research costs and expenses incurred under the research plan for 2019 and 2020, and for all other internal and external costs and expenses incurred to perform activities under the research and development plans. We are responsible for 20% of all internal and external research costs incurred under the research plan for 2019 and 2020, in which our share of these costs is estimated to be approximately \$2 million in total, representing less than three percent of the anticipated overall budget for the SHP2 program in 2019 and 2020. Sanofi is responsible for all costs under the development plan, and since our SHP2 program is in clinical development, the costs under the development plan are expected to be significantly greater than the costs under the research plan. We are responsible for the manufacture of SHP2 inhibitors for Phase 1 and non-registrational Phase 2 clinical trials at Sanofi's cost, while Sanofi is responsible for manufacturing SHP2 inhibitors for all other clinical trials and commercial supply. Sanofi has the sole right and responsibility to perform all regulatory activities under the Sanofi Agreement, except with respect to certain trials conducted by us or otherwise conducted under our IND, including our current clinical trials evaluating RMC-4630. Once we have completed all clinical trials for a product candidate that are assigned to us under a development plan, all regulatory approvals for such product candidate are automatically assigned to Sanofi. Unless otherwise delegated to us by the joint commercialization committee, Sanofi also has the sole right and responsibility for all aspects of the commercialization of SHP2 inhibitors in the world for any and all uses, at its expense, subject to our right to elect to co-promote SHP2 inhibitors in the United States. Sanofi is obligated to use commercially reasonable efforts to seek marketing approval for at least one SHP2 inhibitor product candidate in certain major market countries. Sanofi agrees to provide us, and we agree to provide Sanofi, with research, development and commercialization updates through the joint committees.

During the term of the Sanofi Agreement, we may not, alone or with any affiliate or third party, conduct certain research activities with respect to, or develop or commercialize, any product that contains a SHP2 inhibitor outside of the Sanofi Agreement.

Pursuant to the Sanofi Agreement, we received an upfront payment of \$50 million from Sanofi in July 2018. Upon the achievement of specified development and regulatory milestones, Sanofi will be obligated to pay us up to \$520 million in the aggregate, including up to \$235 million upon the achievement of specified development milestones and up to \$285 million upon achievement of certain marketing approval milestones. In the United States, we will share equally with Sanofi the profits and losses applicable to commercialization of SHP2 inhibitor products, pursuant to a profit/loss share agreement that the parties will negotiate based on key terms agreed in the Sanofi Agreement. On a product-by-product basis, Sanofi will also be required to pay us tiered royalties on annual net sales of each product outside the United States ranging from high single digit to mid-teen percentages. The royalty payments are subject to reduction under specified conditions set forth in the Sanofi Agreement. Subject to certain exceptions, the royalties are payable on a product-by-product and country-by-country basis until the latest of the expiration of all valid claims covering such product in such country contained in the patents licensed to Sanofi under the Sanofi Agreement and the expiration of regulatory exclusivity for such product in such country.

Sanofi has the sole and exclusive right to file, prosecute and maintain any patents licensed to it pursuant to the Sanofi Agreement, as well as to enforce infringement or defend claims against such patents that relate to SHP2 inhibitor products.

Unless terminated earlier, the Sanofi Agreement will continue in effect until the later of the expiration of all of Sanofi's milestone and royalty payment obligations and the expiration of the profit/loss share agreement. Upon expiration of the Sanofi Agreement, the licenses granted to Sanofi thereunder shall become fully paid-up, royalty-free, perpetual and irrevocable. Sanofi may terminate the Sanofi Agreement in its entirety or on a country-by-country or product-by-product basis for any reason or for significant safety concerns, upon prior notice to us within certain specified time periods. Sanofi may terminate the Sanofi Agreement in its entirety upon our change of control, with prior notice. Either party may terminate the Sanofi Agreement if an undisputed material breach by the other party is not cured within a defined period of time, or immediately upon notice for insolvency-related events of the other party. We may terminate the Sanofi Agreement after a certain number of years if Sanofi develops a competing program without commencing a registrational clinical trial for a SHP2 inhibitor product candidate, and subject to certain other conditions. We may also terminate the Sanofi Agreement at any time, if Sanofi ceases certain critical activities for SHP2 inhibitor product candidates for more than a specified period of time, provided that such cessations of critical activity were not a result of certain specified factors, and subject to certain other conditions. Upon any termination of the Sanofi Agreement with respect to any product or country, all licenses to Sanofi with respect to such product or country shall automatically terminate and all rights generally revert back to us. If the Sanofi Agreement is terminated, in its entirety or with respect to a product, other than by us for Sanofi's material breach or insolvency, we may be required to pay Sanofi royalties on worldwide net sales of reverted products up to mid-single digit percentages based on the development and regulatory status of such reverted products, in each case subject to reductions in accordance with the terms of the Sanofi Agreement.

Acquisition of Warp Drive

In October 2018, we entered into an Agreement and Plan of Merger pursuant to which we acquired all outstanding shares of Warp Drive. In connection with the acquisition, we issued 6,797,915 shares of our Series B preferred stock and provided \$0.9 million in other consideration, for total consideration valued at \$69.0 million. The Agreement and Plan of Merger contained representations, warranties and covenants by, among and for the benefit of the parties, as well as mutual indemnification obligations.

Manufacturing

We rely on and will continue to rely on our contract manufacturing organizations, or CMOs, for both drug substance and drug product. Currently, all of our manufacturing is outsourced to well-established third-party manufacturers. We have entered into contracts with CMOs for production of RMC-4630 and RMC-5552 drug substance and drug product for our clinical trials and IND-enabling development studies, respectively, and plan to enter into additional contracts with these or other manufacturers for additional supply.

Our outsourced approach to manufacturing relies on CMOs to first develop manufacturing processes that are compliant with current Good Manufacturing Practice, or cGMP, then produce material for preclinical and clinical studies. Our agreements with CMOs may obligate them to develop and qualify upstream and downstream processes, develop drug product process, validate (and in some cases develop) suitable analytical methods for test and release as well as stability testing, produce drug substance for preclinical testing, produce cGMP-compliant drug substance, or produce cGMP-compliant drug product. We, and Sanofi, conduct audits of CMOs prior to initiation of activities under these agreements and monitor operations to ensure compliance with the mutually agreed process descriptions and to cGMP regulations.

Competition

The biotechnology and pharmaceutical industries, and the oncology sector, are characterized by rapid evolution of technologies, fierce competition and strong defense of intellectual property rights. While we believe that our discovery programs, technology, knowledge, experience, and scientific resources provide us with competitive advantages, we face competition from major pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions, among others.

Any product candidates that we successfully develop and commercialize will compete with currently approved therapies and new therapies that may become available in the future. Key product features that would affect our ability to effectively compete with other therapeutics include the efficacy, safety and convenience of our products and the ease of use and effectiveness of any complementary diagnostics and/or companion diagnostics.

There is a large number of companies developing or marketing treatments for cancer, including many major pharmaceutical and biotechnology companies. These treatments consist of small molecule drug products, biologics, cell-based therapies and traditional chemotherapy. There are also several programs in development targeting SHP2, including those clinical programs run by Novartis AG, Jacobio Pharmaceuticals Co. Ltd., and Relay Therapeutics, Inc. There are several RAS pathway mutations programs, including those directed at KRASG12C(OFF) and KRASG12D(OFF) mutations, including clinical programs directed at KRASG12C(OFF) being conducted by, Amgen Inc., Mirati Therapeutics, Inc., Johnson & Johnson, AstraZeneca plc and Eli Lilly & Co. Other clinical programs directed at mutant RAS are being conducted by Merck & Co./Moderna Therapeutics, Boehringer Ingelheim and Gilead Sciences, Inc. Smaller and other early stage companies may also prove to be significant competitors. In addition, academic research departments and public and private research institutions may be conducting research on compounds that could prove to be competitive.

The availability of coverage and reimbursement from government and other third-party payors will also significantly affect the pricing and competitiveness of our products. Our competitors also may obtain U.S. Food and Drug Administration, or the FDA, or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

Many of the companies against which we may compete have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Intellectual property

Our success depends in part on our ability and the ability of our collaborators to obtain and maintain proprietary protection for our technology, programs, and know-how related to our business, defend and enforce our intellectual property rights, in particular, our patent rights, preserve the confidentiality of our trade secrets, and operate without infringing valid and enforceable intellectual property rights of others. We endeavor to establish, maintain and enforce intellectual property rights that protect our business interests.

The term of individual patents depends upon the legal term of patents in the countries in which they are obtained. In most countries in which we file, including the United States, the patent term is generally 20 years from the earliest date of filing a non-provisional patent application, assuming the patent has not been terminally disclaimed over a commonly-owned patent or a patent naming a common inventor, or over a patent not commonly owned but that was disqualified as prior art as the result of activities undertaken within the scope of a joint research agreement. In the United States, the term of a patent may also be eligible for patent term adjustment for delays within the United States Patent and Trademark Office, or USPTO. In addition, for patents that cover an FDA-approved drug, the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, may permit a patent term extension of up to five years beyond the expiration of the patent. While the length of such patent term extension is related to the length of time the drug is under regulatory review, patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent per approved drug may be extended and only those claims covering the approved drug product, a method for using it or a method for manufacturing it may be extended. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when our products receive FDA approval, we expect to apply for patent term extensions on patents covering those products. We plan to seek any available patent term extension to any issued patents we may be granted in any jurisdiction where such extensions are available; however, there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and if granted, the length of such extensions.

We also rely on trade secrets, know-how, and confidential information relating to our programs to develop and maintain our proprietary position, and seek to protect and maintain the confidentiality of such items to protect aspects of our business that are not amenable to, or that we do not presently consider appropriate for, patent protection. Our trade secrets include, for example, certain program specific syntheses, manufacturing schema, formulations, biomarkers, patient selection strategies, and certain aspects of our proprietary tri-complex technology platform. It is our policy to require our employees, consultants, contractors, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements prior to the commencement of employment or consulting relationships with us, and for employees, contractors and consultants to enter into invention assignment agreements with us. These agreements generally provide that all confidential information developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. Where applicable, the agreements provide that all inventions to which the individual contributed as an inventor shall be assigned to us, and as such, will become our property. There can be no assurance, however, that these agreements will be self-executing or otherwise provide meaningful protection or adequate remedies for our trade secrets or other proprietary information, including in the event of unauthorized use or disclosure of such information. We also seek to preserve the integrity and confidentiality of our trade secrets and confidential information by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in the measures we take to protect and preserve our trade secrets, such measures can be breached, and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. For more information regarding the risks related to intellectual property, please see "Risk Factors—Risks related to intellectual property."

Our program-specific patent portfolio

Our patent portfolio is directed to small molecules, platform methodologies, and related technology. We seek patent protection for product candidates, development programs, and related alternatives by filing and prosecuting patent applications in the United States and other countries, as appropriate.

We own and co-own patent applications related to our SHP2 development program. As of December 31, 2019, our patent portfolio related to this program consists of ownership or co-ownership rights to three pending U.S. non-provisional patent applications, six pending applications under the Patent Cooperation Treaty, or PCT, and approximately 57 pending patent applications in other jurisdictions, including without limitation major markets such as Brazil, Canada, China, Europe, Japan, Mexico and South Korea, within eight total patent families that include patent applications covering compositions of matter or methods of using our clinical candidate, RMC-4630, alone or in combination with certain other therapeutic agents. Subsequently, in March 2020, the USPTO granted a U.S. patent covering, in part, the composition of matter of our clinical SHP2 inhibitor, RMC-4630. The single co-owned patent family is co-owned with The University of California, San Francisco, or UCSF. Any patents issuing from these patent applications would have nominal expiration dates ranging from 2037 to 2039, without accounting for any applicable patent term adjustments or extensions. All but the single UCSF co-owned family is exclusively licensed to our SHP2 collaborator, Sanofi, under the Sanofi Agreement.

We own or exclusively license patents and patent applications related to our 4EBP1/mTORC1 development program. As of December 31, 2019, our patent portfolio related to this program consists of ownership or the exclusive license of rights to one issued U.S. patent, two pending U.S. non-provisional patent applications, three pending PCT applications and nine pending patent applications in other jurisdictions, including without limitation major markets such as Canada, China, Europe, Japan and Mexico, within four total patent families that include filings covering compositions of matter or methods of using our development candidate, RMC-5552, alone or in combination with certain other therapeutic agents. The single exclusively licensed patent family is licensed from UCSF. The issued patent has, and any patents issuing from these patent applications would have, nominal expiration dates ranging from 2035 to 2039, without accounting for any applicable patent term adjustments or extensions.

We own patents and patent applications related to our RAS tri-complex inhibitors and related platform technology. As of December 31, 2019, our patent portfolio related to this program consists of ownership rights to four issued U.S. patents, four pending U.S. non-provisional patent applications, two pending PCT applications and approximately nine pending patent applications in other jurisdictions, including without limitation major markets such as Canada, Europe and Japan, within six total patent families that include filings covering compositions of matter, methods of using those compositions alone or in combination with certain other therapeutic agents, or aspects pertaining to our tri-complex approach to RAS inhibition. The issued patents have, and any patents issuing from these patent applications would have, nominal expiration dates ranging from 2031 to 2038, without accounting for any applicable patent term adjustments or extensions.

Government regulation

The FDA and other regulatory authorities at federal, state, and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, marketing and promotion, distribution, post-approval monitoring and reporting, sampling, and import and export of products, such as those we are developing. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

U.S. drug regulation

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. FDA approval is required before any new unapproved drug can be marketed in the United States. Drugs are also subject to other federal, state and local statutes and regulations. Failure to comply with applicable FDA or other requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA clinical holds, refusal to approve pending applications, withdrawal of an approval, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties and criminal prosecution.

The process required by the FDA before product candidates may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests and animal studies, where all supporting safety and toxicity studies are performed in accordance with the FDA's Good Laboratory Practice, or GLP, regulations;
- manufacture of clinical drug supply in accordance with FDA's current Good Manufacturing Practice, or cGMP, regulations, when required;

- submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical studies may begin and must be updated annually or when significant changes are made;
- approval by an independent institutional review board, or IRB, representing each clinical site before a clinical study may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practice, or GCP, regulations to establish the safety and efficacy of the product candidate for each proposed indication;
- preparation of and submission to the FDA of an NDA;
- a determination by the FDA within 60 days of its receipt of an NDA to file the application for review;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility(ies) where the product is manufactured to assess compliance with current good manufacturing practice, or cGMP, regulations, and of selected clinical investigation sites to assess compliance with GCP; and
- FDA review and approval of an NDA to permit commercial marketing of the product for its particular labeled uses in the United States.

Preclinical and clinical studies

The preclinical and clinical testing and approval process can take many years and the actual time required to obtain approval, if any, may vary substantially based upon the type, complexity and novelty of the product or condition being treated.

Preclinical tests include laboratory (*in vitro*) evaluation of product chemistry, formulation and toxicity, as well as animal (*in vivo*) studies to assess the characteristics and potential safety and efficacy of the product. The conduct of preclinical tests that provide safety and toxicological information must comply with federal regulations and requirements, including GLP. The results of preclinical testing are submitted to the FDA as part of an IND along with other information, including information about product chemistry, manufacturing and controls (CMC) and any available human data or literature to support use of the product in humans. Long-term preclinical tests, such as animal tests of reproductive toxicity and carcinogenicity, may continue after the IND is submitted.

The central focus of an IND submission is on the general investigational plan and the protocol(s) for human studies. An IND must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to the proposed clinical studies. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before clinical studies can begin.

For each successive clinical trial conducted with the investigational drug, a separate, new protocol submission to an existing IND must be made, along with any subsequent changes to the investigational plan. Sponsors are also subject to ongoing reporting requirements, including submission of IND safety reports for any serious adverse experiences associated with use of the investigational drug or findings from preclinical studies suggesting a significant risk for human subjects, as well as IND annual reports on the progress of the investigations conducted under the IND.

Clinical studies involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for participation in each clinical study. Clinical studies are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the efficacy criteria to be evaluated. A protocol for each clinical study and any subsequent protocol amendments must be submitted to the FDA as part of the IND. Additionally, approval must also be obtained from each clinical study site's IRB before a study may be initiated at the site, and the IRB must monitor the study until completed. Sponsors of clinical trials generally must register and report ongoing clinical studies and clinical study results to public registries, including the website maintained by the U.S. National Institutes of Health, ClinicalTrials.gov.

For purposes of NDA approval, human clinical trials are typically divided into three or four phases. Although the phases are usually conducted sequentially, they may overlap or be combined.

- *Phase 1.* The drug is initially introduced into healthy human subjects or into patients with the target disease or condition. These studies are designed to evaluate the safety, dosage tolerance, metabolism and pharmacologic actions of the drug in humans, the side effects associated with increasing doses, and if possible, to gain early evidence on effectiveness.

- *Phase 2.* The drug is administered to a limited patient population to evaluate tolerance and optimal dose, identify possible adverse side effects and safety risks, and preliminarily evaluate efficacy. Multiple Phase 2 trials may be conducted to obtain additional data prior to beginning Phase 3 trials.
- *Phase 3.* The drug is administered to an expanded patient population, generally at geographically dispersed clinical study sites to generate enough data to statistically evaluate dosage, clinical effectiveness and safety, to establish the overall benefit-risk relationship of the investigational product and to provide an adequate basis for product approval.
- *Phase 4.* In some cases, the FDA may condition approval of an NDA for a product candidate on the sponsor's agreement to conduct additional clinical studies after approval. In other cases, a sponsor may voluntarily conduct additional clinical studies after approval to gain more information about the drug. Such post-approval studies are typically referred to as Phase 4 clinical studies.

The FDA, the IRB or the clinical study sponsor may suspend or terminate a clinical study at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. The sponsor may also suspend or terminate a clinical study based on evolving business objectives and/or competitive climate.

Concurrent with clinical trials, companies may complete additional *in vivo* studies and develop additional information about the characteristics of the product candidate. Companies must also finalize a process for manufacturing the product in commercially applicable quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product and, among other things, must use validated methods for testing the product against specifications to confirm its identity, strength, quality and purity. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product does not undergo unacceptable deterioration over its shelf life.

Submission of an NDA to the FDA

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development and testing are submitted to the FDA in the form of an NDA requesting approval to market the product for one or more indications. The submission of an NDA requires payment of a substantial application user fee to the FDA, unless a waiver or exemption applies.

An NDA must include all relevant data available from pertinent preclinical and clinical studies, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls and proposed labeling, among other things. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of a use of a product, or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and effectiveness of the investigational product to the satisfaction of the FDA.

The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an application for filing. In this event, the application must be resubmitted with the additional information and is subject to payment of additional user fees. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. Under applicable Prescription Drug User Fee Act, or PDUFA, performance goals, the FDA endeavors to review applications subject to standard review within ten to twelve months, and to review applications subject to priority review within six to eight months, depending on whether the drug is a new molecular entity.

The FDA may refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee for review, evaluation and recommendation as to whether the application should be approved and under what conditions.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, the FDA will typically inspect one or more clinical sites to assure that relevant study data was obtained in compliance with GCP requirements.

After the FDA evaluates the NDA and conducts inspections of manufacturing facilities, it may issue an approval letter or a complete response letter. A complete response letter indicates that the review cycle of the application is complete and the application is not ready for approval. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. Even with submission of this additional information, the FDA may ultimately decide that an application does not satisfy the regulatory criteria for approval. If, or when, the deficiencies have been addressed to the FDA's satisfaction in a resubmission of the application, the FDA will issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

As a condition of NDA approval, the FDA may require a Risk Evaluation and Mitigation Strategy, or REMS, program to help ensure that the benefits of the drug outweigh its risks. If the FDA determines a REMS program is necessary during review of the application, the drug sponsor must agree to the REMS plan at the time of approval. A REMS program may be required to include various elements, such as a medication guide or patient package insert, a communication plan to educate healthcare providers of the drug's risks, or other elements to assure safe use, such as limitations on who may prescribe or dispense the drug, dispensing only under certain circumstances, special monitoring and the use of patient registries. In addition, all REMS programs must include a timetable to periodically assess the strategy following implementation.

Further, product approval may require substantial post-approval testing and surveillance to monitor the drug's safety and efficacy, and the FDA has the authority to prevent or limit further marketing of a product based on the results of these post-marketing programs. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing. Moreover, changes to the conditions established in an approved application, including changes in indications, labeling or manufacturing processes or facilities may require submission and FDA approval of a new NDA or NDA supplement before the changes can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that supporting the original approval, and the FDA uses similar procedures in reviewing supplements as it does in reviewing original applications.

Expedited development and review programs

The FDA offers a number of expedited development and review programs for qualifying product candidates, one or more of which may be available for our current or future products.

New drug products are eligible for fast track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a fast track product has opportunities for frequent interactions with the review team during product development and, once an NDA is submitted, the product may be eligible for priority review. A fast track product may also be eligible for rolling review, where the FDA may consider for review sections of the NDA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the NDA, the FDA agrees to accept sections of the NDA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the NDA.

A product intended to treat a serious or life-threatening disease or condition may also be eligible for breakthrough therapy designation to expedite its development and review. A product can receive breakthrough therapy designation if preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.

After an NDA is submitted for a product, including a product with a fast track designation and/or breakthrough therapy designation, the NDA may be eligible for priority review. A product is eligible for priority review if it has the potential to provide a significant improvement in the treatment, diagnosis or prevention of a serious disease or condition compared to marketed products. Depending on whether a drug contains a new molecular entity, priority review designation means the FDA's goal is to take an action on the marketing application within six to eight months of the 60-day filing date, compared with ten to twelve months under standard review.

Additionally, products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Orphan drug designation

We intend to pursue orphan drug designation with respect to oncology indications, as appropriate, with the potential to obtain orphan drug exclusivity for our products, if approved.

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for this type of disease or condition will be recovered from sales in the United States for that drug. Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusive approval (or exclusivity), which means that the FDA may not approve any other applications, including a full NDA, to market the same drug for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent the FDA from approving a different drug for the same disease or condition, or the same drug for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the application user fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Pediatric information and pediatric exclusivity

Under the Pediatric Research Equity Act, or PREA, certain NDAs and certain supplements to an NDA must contain data to assess the safety and efficacy of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of pediatric data or full or partial waivers. The Food and Drug Administration Safety and Innovation Act, or FDASIA, amended the FDCA to require that a sponsor who is planning to submit a marketing application for a drug that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, or iPSP, within 60 days of an end-of-Phase 2 meeting or, if there is no such meeting, as early as practicable before the initiation of a Phase 3 or Phase 2/3 study. The iPSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The FDA and the sponsor must reach an agreement on the iPSP. A sponsor can submit amendments to an agreed-upon iPSP at any time if changes to the pediatric plan need to be considered based on data collected from preclinical studies, early phase clinical trials and/or other clinical development programs.

A drug product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued “Written Request” for such a study.

Post-approval requirements

Once an NDA is approved, a product will be subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to drug listing and registration, recordkeeping, periodic reporting, product sampling and distribution, adverse event reporting and advertising, marketing and promotion. Drugs may be marketed only for the approved indications and in accordance with the provisions of the approved labeling. While physicians may prescribe for off-label uses, manufacturers may only promote for the approved indications and in accordance with the provisions of the approved label. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements, under which FDA assesses an annual program fee for each product identified in an approved NDA. In addition, quality-control, drug manufacture, packaging and labeling procedures must continue to conform to cGMPs after approval. Drug manufacturers and certain of their subcontractors are required to register their establishments with the FDA and certain state agencies. Registration with the FDA subjects entities to periodic unannounced and announced inspections by the FDA and these state agencies, during which the agency inspects manufacturing facilities to assess compliance with cGMPs. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

The FDA may withdraw approval of a product if compliance with regulatory requirements is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of a product, complete withdrawal of the product from the market or product recalls;
- fines, warning or untitled letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of existing product approvals;
- product seizure or detention, or refusal of the FDA to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA may also require post-approval studies and clinical trials if the FDA finds that scientific data, including information regarding related drugs, deem it appropriate. The purpose of such studies would be to assess a known serious risk or signals of serious risk related to the drug or to identify an unexpected serious risk when available data indicate the potential for a serious risk. The FDA may also require a labeling change if it becomes aware of new safety information that it believes should be included in the labeling of a drug.

International regulation

In addition to regulations in the United States, we could become subject to a variety of foreign regulations regarding development, approval, commercial sales and distribution of our products if we seek to market our product candidates in other jurisdictions. Whether or not we obtain FDA approval for a product, we must obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country and can involve additional product testing and additional review periods, and the time may be longer or shorter than that required to obtain FDA approval. The requirements governing, among other things, the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others. If we fail to comply with applicable foreign regulatory requirements, we may be subject to fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Other healthcare laws

Pharmaceutical companies are subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their business. Such laws include, without limitation, U.S. federal and state anti-kickback, fraud and abuse, false claims, consumer fraud, pricing reporting, data privacy and security, and transparency laws and regulations as well as similar foreign laws in jurisdictions outside the U.S.

For example, the federal Anti-Kickback Statute prohibits, among other things, individuals or entities from knowingly and willfully offering, paying, soliciting or receiving remuneration, directly or indirectly, overtly or covertly, in cash or in kind to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. A person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act and the civil monetary penalties statute. The federal civil and criminal false claims laws, including the civil False Claims Act, prohibit, among other things, any individual or entity from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created additional federal civil and criminal statutes that prohibit, among other things, knowingly and willfully executing a scheme to defraud any healthcare benefit program. Similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the healthcare fraud statute implemented under HIPAA or specific intent to violate it in order to have committed a violation. The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to CMS information related to payments or other transfers of value made to physicians and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members.

Similar state and local laws and regulations may also restrict business practices in the pharmaceutical industry, such as state anti-kickback and false claims laws, which may apply to business practices, including but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, or by patients themselves; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information or which require tracking gifts and other remuneration and items of value provided to physicians, other healthcare providers and entities; state and local laws that require the registration of pharmaceutical sales representatives; and state and local laws governing the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. Violation of any of such laws or any other governmental regulations that apply may result in penalties, including, without limitation, civil and criminal penalties, damages, fines, additional reporting obligation, the curtailment or restructuring of operations, exclusion from participation in governmental healthcare programs and individual imprisonment.

Data privacy and security laws

Pharmaceutical companies may be subject to U.S. federal and state health information privacy, security and data breach notification laws, which may govern the collection, use, disclosure and protection of health-related and other personal information. State laws may be more stringent, broader in scope or offer greater individual rights with respect to protected health information, or PHI, than HIPAA and state laws may differ from each other, which may complicate compliance efforts. Entities that are found to be in violation of HIPAA as the result of a breach of unsecured PHI, a complaint about privacy practices or an audit by the Department of Health and Human Services, or HHS, may be subject to significant civil, criminal and administrative fines and penalties and/or additional reporting and oversight obligations if required to enter into a resolution agreement and corrective action plan with HHS to settle allegations of HIPAA non-compliance. In addition, California enacted the California Consumer Privacy Act, or CCPA, which creates individual privacy rights for California consumers and increases the privacy and security obligations of entities handling certain personal data. The CCPA went into effect on January 1, 2020, and the California Attorney General may bring enforcement actions for violations beginning July 1, 2020. The CCPA has been amended from time to time, and it remains unclear what, if any, further modifications will be made to this legislation or how it will be interpreted.

European Union member states, the United Kingdom, Switzerland and other jurisdictions have also adopted data protection laws and regulations, which impose significant compliance obligations. In the European Economic Area, or EEA, and the United Kingdom, the collection and use of personal data, including clinical trial data, is governed by the provisions of the General Data Protection Regulation, or GDPR. The GDPR became effective on May 25, 2018, repealing its predecessor directive and increasing responsibility

and liability of pharmaceutical companies in relation to the processing of personal data of EU data subjects. The GDPR, together with national legislation, regulations and guidelines of the EU member states and the United Kingdom governing the processing of personal data, impose strict obligations and restrictions on the ability to collect, analyze, store, transfer and otherwise process personal data, including health data from clinical trials and adverse event reporting. In particular, the GDPR includes obligations and restrictions concerning the consent of the individuals to whom the personal data relates, the information provided to such individuals, the transfer of personal data out of the EEA or the United Kingdom, security breach notifications, security and confidentiality of the personal data and imposition of substantial potential fines for breaches of the data protection obligations. European data protection authorities may interpret the GDPR and national laws differently and impose additional requirements, which add to the complexity of processing personal data in or from the EEA or United Kingdom. Guidance on implementation and compliance practices are often updated or otherwise revised.

Coverage and reimbursement

Sales of any pharmaceutical product depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement for such product by third-party payors. Significant uncertainty exists as to the coverage and reimbursement status of any newly approved product. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. One third-party payor's decision to cover a particular product does not ensure that other payors will also provide coverage for the product. As a result, the coverage determination process can require manufacturers to provide scientific and clinical support for the use of a product to each payor separately and can be a time-consuming process, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance.

In addition, third-party payors are increasingly reducing reimbursements for pharmaceutical products and services. The U.S. government and state legislatures have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. Third-party payors are more and more challenging the prices charged, examining the medical necessity and reviewing the cost effectiveness of pharmaceutical products, in addition to questioning their safety and efficacy. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product. Decreases in third-party reimbursement for any product or a decision by a third-party payor not to cover a product could reduce physician usage and patient demand for the product.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. Pharmaceutical products may face competition from lower-priced products in foreign countries that have placed price controls on pharmaceutical products and may also compete with imported foreign products. Furthermore, there is no assurance that a product will be considered medically reasonable and necessary for a specific indication, will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be established even if coverage is available or that the third-party payors' reimbursement policies will not adversely affect the ability for manufacturers to sell products profitably.

Healthcare reform

In the United States and certain foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system. In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was signed into law, which substantially changed the way healthcare is financed by both governmental and private insurers in the United States. The ACA contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement adjustments and fraud and abuse changes. Additionally, the ACA increased the minimum level of Medicaid rebates payable by manufacturers of brand name drugs from 15.1% to 23.1%; required collection of rebates for drugs paid by Medicaid managed care organizations; imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell certain "branded prescription drugs" to specified federal government programs; expanded eligibility criteria for Medicaid programs; created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and established a Center for Medicare Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, in 2017, Congress enacted the Tax Cuts and Jobs Act, or the TCJA, which eliminated the tax-based shared responsibility payment imposed by the ACA on certain individuals who

fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the “individual mandate.” On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or the Texas District Court Judge, ruled that the individual mandate is a critical and inseverable feature of the ACA, and therefore, because it was repealed as part of the TJCA, the remaining provisions of the ACA are invalid as well. While the Texas U.S. District Court Judge, as well as the Trump Administration and CMS, have stated that the ruling will have no immediate effect, and on December 30, 2018 the Texas District Court Judge issued an order staying the judgment pending appeal, it is unclear how this decision, subsequent appeals, and other efforts to repeal and replace the ACA will impact the ACA.

Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year and reduced payments to several types of Medicare providers, which will remain in effect through 2027 absent additional congressional action. Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted legislation designed, among other things, to bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs and reform government program reimbursement methodologies for pharmaceutical products. Individual states in the United States have also become increasingly active in implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures and, in some cases, mechanisms to encourage importation from other countries and bulk purchasing. Furthermore, there has been increased interest by third party payors and governmental authorities in reference pricing systems and publication of discounts and list prices.

Employees

As of December 31, 2019, we had 95 full-time employees. 53 of our employees have M.D. or Ph.D. degrees. Within our workforce, as of December 31, 2019, 79 employees were engaged in research and development and 16 were engaged in business development, finance, legal, and general management and administration. None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Corporate Information

We were founded in October 2014 as a Delaware corporation. Our principal executive offices are located at 700 Saginaw Drive, Redwood City, California 94063, and our telephone number is (650) 481-6801.

Our website address is www.revmed.com. We make available on or through our website certain reports and amendments to those reports that we file with or furnish to the SEC in accordance with the Securities Exchange Act of 1934, as amended (Exchange Act). These include our annual reports on Form 10-K, our quarterly reports on Form 10-Q, and our current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. We make this information available on or through our website free of charge as soon as reasonably practicable after we electronically file the information with, or furnish it to, the SEC. References to our website address do not constitute incorporation by reference of the information contained on the website, and the information contained on the website is not part of this document or any other document that we file with or furnish to the SEC. The SEC maintains a site on the worldwide web that contains reports, proxy and information statements and other information regarding our filings at www.sec.gov.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this Annual Report on Form 10-K, including our financial statements and the related notes and the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations, and growth prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations and the market price of our common stock.

Risks related to our limited operating history, financial position and need for additional capital

We are a clinical-stage precision oncology company with a limited operating history and no products approved for commercial sale. We have incurred significant losses since inception. We expect to incur losses for at least the next several years and may never achieve or maintain profitability, which, together with our limited operating history, makes it difficult to assess our future viability.

Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We are a clinical-stage precision oncology company, and we have only a limited operating history upon which you can evaluate our business and prospects. We currently have no products approved for commercial sale, have not generated any revenue from sales of products and have incurred losses in each year since our inception in October 2014. In addition, we have limited experience as a company and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical industry. Only one of our product candidates, RMC-4630, is currently in clinical development.

Since inception, we have incurred significant net losses. Our net losses were \$47.7 million, \$41.8 million, and \$31.1 million for the years ended December 31, 2019, 2018 and 2017, respectively. As of December 31, 2019, we had an accumulated deficit of \$157.4 million. We have funded our operations to date primarily with proceeds from the sale of preferred stock and upfront payments and research and development cost reimbursement received under our collaboration agreement with Genzyme Corporation, an affiliate of Sanofi, or the Sanofi Agreement. To date, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, acquiring and discovering development programs, securing intellectual property rights and conducting discovery, research and development activities for our programs. We have not yet demonstrated our ability to successfully complete any clinical trials, including pivotal clinical trials, obtain marketing approvals, manufacture a commercial-scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Our product candidates will require substantial additional development time and resources before we will be able to apply for or receive regulatory approvals and, if approved, begin generating revenue from product sales. We expect to continue to incur significant expenses and operating losses for the foreseeable future.

We have never generated revenue from product sales and may never be profitable.

Our ability to generate revenue from product sales and achieve profitability depends on our ability, alone or with our collaboration partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, our development programs. We do not anticipate generating revenue from product sales for the next several years, if ever. Our ability to generate future revenue from product sales depends heavily on our, Sanofi’s, and any potential future collaborators’ success in:

- completing clinical and preclinical development of product candidates and programs and identifying and developing new product candidates;
- seeking and obtaining marketing approvals for any product candidates that we develop;
- launching and commercializing product candidates for which we obtain marketing approval by establishing a sales force, marketing, medical affairs and distribution infrastructure or, alternatively, collaborating with a commercialization partner;
- achieving adequate coverage and reimbursement by third-party payors for product candidates that we develop;
- establishing and maintaining supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and the market demand for product candidates that we develop, if approved;
- obtaining market acceptance of product candidates that we develop as viable treatment options;
- addressing any competing technological and market developments;

- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations;
- maintaining, protecting, enforcing and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- defending against third-party interference, infringement or other intellectual property-related claims, if any; and
- attracting, hiring and retaining qualified personnel.

Even if one or more of the product candidates that we develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Our expenses could increase beyond expectations if we are required by the U.S. Food and Drug Administration, or the FDA, the European Medicines Agency, or the EMA, or other regulatory agencies to perform clinical trials or studies in addition to those that we currently anticipate. Even if we are able to generate revenue from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations.

We will require substantial additional financing to achieve our goals, which may not be available on acceptable terms, or at all. A failure to obtain this necessary capital when needed could force us to delay, limit, reduce or terminate our product development or commercialization efforts.

Our operations have consumed substantial amounts of cash since inception. Since our inception, we have invested a significant portion of our efforts and financial resources in research and development activities for our initial preclinical and clinical product candidates. Preclinical studies and clinical trials and additional research and development activities will require substantial funds to complete. As of December 31, 2019, we had cash, cash equivalents and marketable securities of \$122.8 million. In February 2020, we raised \$251.0 million upon the completion of our initial public offering, or IPO, net of underwriting discounts and commissions and estimated offering expenses. We expect to continue to spend substantial amounts to continue the preclinical and clinical development of our current and future programs. If we are able to gain marketing approval for product candidates that we develop, including RMC-4630, we will require significant additional amounts of cash in order to launch and commercialize such product candidates to the extent that such launch and commercialization are not the responsibility of Sanofi or another collaborator that we may contract with in the future. In addition, other unanticipated costs may arise. Because the design and outcome of our planned and anticipated clinical trials is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of any product candidate we develop.

Our future capital requirements depend on many factors, including:

- the scope, progress, results and costs of researching and developing our product candidates and programs, and of conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining marketing approvals for product candidates we develop if clinical trials are successful;
- the success of our collaboration with Sanofi, including the continued reimbursement by Sanofi of substantially all of our research costs and all of our development costs for the SHP2 program under the Sanofi Agreement;
- whether we achieve certain clinical and regulatory milestones under the Sanofi Agreement, each of which would trigger additional payments to us;
- the cost of commercialization activities for RMC-4630, to the extent not borne by Sanofi, and any other future product candidates we develop, whether alone or in collaboration, including marketing, sales and distribution costs if RMC-4630 or any other product candidate we develop is approved for sale;
- the cost of manufacturing our current and future product candidates for clinical trials in preparation for marketing approval and in preparation for commercialization;
- our ability to establish and maintain strategic licenses or other arrangements and the financial terms of such agreements;
- the costs involved in preparing, filing, prosecuting, maintaining, expanding, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, profit share or royalties on, our future products, if any;
- the emergence of competing cancer therapies and other adverse market developments; and
- any plans to acquire or in-license other programs or technologies.

Other than our Sanofi collaboration on SHP2 inhibitors, including RMC-4630, we do not have any committed external source of funds or other support for our development efforts. We expect to finance our cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing or distribution arrangements. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. Based on our research and development plans, we expect that our existing cash, cash equivalents and marketable securities to enable us to fund our operations for at least 12 months following the filing date of this report.

Our ability to raise additional funds will depend on financial, economic and other factors, many of which are beyond our control. Additional funds may not be available when we need them, on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to:

- delay, limit, reduce or terminate preclinical studies, clinical trials or other research and development activities or eliminate one or more of our development programs altogether; or
- delay, limit, reduce or terminate our efforts to establish manufacturing and sales and marketing capabilities or other activities that may be necessary to commercialize any future approved products, or reduce our flexibility in developing or maintaining our sales and marketing strategy.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies.

To date, we have primarily financed our operations through the sale of preferred stock and common stock and upfront payments and research and development cost reimbursement received in connection with our collaboration with Sanofi. We will be required to seek additional funding in the future and currently intend to do so through collaborations, public or private equity offerings or debt financings, credit or loan facilities or a combination of one or more of these funding sources. If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us. If we raise additional funds by issuing equity securities, our stockholders may suffer dilution and the terms of any financing may adversely affect the rights of our stockholders. In addition, as a condition to providing additional funds to us, future investors may demand, and may be granted, rights superior to those of existing stockholders. Debt financing, if available, is likely to involve restrictive covenants limiting our flexibility in conducting future business activities, and, in the event of insolvency, debt holders would be repaid before holders of our equity securities received any distribution of our corporate assets. Attempting to secure additional financing may also divert our management from our day-to-day activities, which may adversely affect our ability to develop our product candidates.

Our operating results may fluctuate significantly, which will make our future results difficult to predict and could cause our results to fall below expectations.

Our quarterly and annual operating results may fluctuate significantly, which will make it difficult for us to predict our future results. These fluctuations may occur due to a variety of factors, many of which are outside of our control and may be difficult to predict, including:

- the timing and cost of, and level of investment in, research, development and commercialization activities, which may change from time to time;
- the timing and status of enrollment for our clinical trials;
- the timing of regulatory approvals, if any, in the United States and internationally;
- the timing of expanding our operational, financial and management systems and personnel, including personnel to support our clinical development, quality control, manufacturing and commercialization efforts and our operations as a public company;
- the cost of manufacturing, as well as building out our supply chain, which may vary depending on the quantity of productions, and the terms of any agreements we enter into with third-party suppliers;
- timing and amount of any milestone, royalty or other payments due under any current or future collaboration or license agreement, including the Sanofi Agreement;
- coverage and reimbursement policies with respect to any future approved products, and potential future drugs that compete with our products;

- the timing and cost to establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly with Sanofi;
- expenditures that we may incur to acquire, develop or commercialize additional products and technologies;
- the level of demand for any future approved products, which may vary significantly over time;
- future accounting pronouncements or changes in our accounting policies; and
- the timing and success or failure of preclinical studies and clinical trials for our product candidates or competing product candidates, or any other change in the competitive landscape of our industry, including consolidation among our competitors or collaboration partners.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance.

This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated revenue or earnings guidance we may provide.

Risks related to product development and regulatory process

We are early in our development efforts. Our business is dependent on the successful development of our current and future product candidates. If we are unable to advance our current or future product candidates through clinical trials, obtain marketing approval and ultimately commercialize any product candidates we develop, or experience significant delays in doing so, our business will be materially harmed.

We are early in our development efforts, and we have only recently initiated our first clinical trials for our most advanced product candidate, RMC-4630. Our other programs are in the preclinical stage. We have invested substantially all of our efforts and financial resources in the identification of targets and preclinical development of small molecules to treat cancer.

The success of our business, including our ability to finance our company and generate revenue from products in the future, which we do not expect will occur for several years, if ever, will depend heavily on the successful development and eventual commercialization of the product candidates we develop, which may never occur. Our current product candidates, and any future product candidates we develop, will require additional preclinical and clinical development, management of clinical, preclinical and manufacturing activities, marketing approval in the United States and other markets, demonstrating effectiveness to pricing and reimbursement authorities, obtaining sufficient manufacturing supply for both clinical development and commercial production, building of a commercial organization, and substantial investment and significant marketing efforts before we generate any revenues from product sales.

We have not previously submitted a new drug application, or NDA, to the FDA or similar approval filings to a comparable foreign regulatory authority, for any product candidate. An NDA or other relevant regulatory filing must include extensive preclinical and clinical data and supporting information to establish that the product candidate is safe and effective for each desired indication. The NDA or other relevant regulatory filing must also include significant information regarding the chemistry, manufacturing and controls for the product. We cannot be certain that our current or future product candidates will be successful in clinical trials or receive regulatory approval. Further, even if they are successful in clinical trials, our product candidates or any future product candidates may not receive regulatory approval. If we do not receive regulatory approvals for current or future product candidates, we may not be able to continue our operations. Even if we successfully obtain regulatory approval to market a product candidate, our revenue will depend, in part, upon the size of the markets in the territories for which we gain regulatory approval and have commercial rights, as well as the availability of competitive products, whether there is sufficient third-party reimbursement and adoption by physicians.

We plan to seek regulatory approval to commercialize our product candidates both in the United States and in select foreign countries. While the scope of regulatory approval generally is similar in other countries, in order to obtain separate regulatory approval in other countries we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy. Other countries also have their own regulations governing, among other things, clinical trials and commercial sales, as well as pricing and distribution of drugs, and we may be required to expend significant resources to obtain regulatory approval and to comply with ongoing regulations in these jurisdictions.

The success of our current and future product candidates will depend on several factors, including the following:

- successful completion of clinical trials and preclinical studies;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;
- acceptance of investigational new drug applications, or INDs, for our planned clinical trials or future clinical trials;
- successful enrollment and completion of clinical trials, particularly where competitors may also be recruiting patients with KRASG12C mutations;
- successful data from our clinical program that supports an acceptable risk-benefit profile of our product candidates in the intended populations;
- receipt and maintenance of marketing approvals from applicable regulatory authorities;
- establishing agreements with third-party manufacturers for clinical supply for our clinical trials and commercial manufacturing, if our product candidate is approved;
- entry into collaborations to further the development of our product candidates;
- obtaining and maintaining our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- enforcing and defending intellectual property rights and claims;
- obtaining and maintaining regulatory exclusivity for our product candidates;
- successfully launching commercial sales of our product candidates, if approved;
- acceptance of the product candidate's benefits and uses, if approved, by patients, the medical community and third-party payors;
- the prevalence, duration and severity of potential side effects or other safety issues experienced with our product candidates following approval;
- effectively competing with other therapies; and
- obtaining and maintaining healthcare coverage and adequate reimbursement from third-party payors.

If we are not successful with respect to one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize the product candidates we develop, which would materially harm our business. If we do not receive marketing approvals for RMC-4630, or any other product candidate we develop, we may not be able to continue our operations.

Preclinical development is uncertain. Our preclinical programs may experience delays or may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize our product candidates on a timely basis or at all, which would have an adverse effect on our business.

In order to obtain FDA approval to market a new small molecule product we must demonstrate proof of safety and efficacy in humans. To meet these requirements, we will have to conduct adequate and well-controlled clinical trials. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical studies that support our planned INDs in the United States. We only have one product candidate in clinical development and the rest of our programs are in preclinical research or development, including our RAS portfolio and RMC-5552 product candidate. We cannot be certain of the timely completion or outcome of our preclinical studies and cannot predict if the FDA will accept our proposed clinical programs or if the outcome of our preclinical studies will ultimately support further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing additional clinical trials to begin.

Conducting preclinical testing is a lengthy, time-consuming and expensive process. The length of time may vary substantially according to the type, complexity and novelty of the program, and often can be several years or more per program. Delays associated with programs for which we are directly conducting preclinical studies may cause us to incur additional operating expenses. Moreover, we may be affected by delays associated with the studies of certain programs that are the responsibility of Sanofi or our potential future partners over which we have no control. The commencement and rate of completion of preclinical studies and clinical trials for a product candidate may be delayed by many factors, including, for example:

- inability to generate sufficient preclinical or other *in vivo* or *in vitro* data to support the initiation of clinical studies;
- delays in reaching a consensus with regulatory agencies on study design and obtaining regulatory authorization to commence clinical trials;
- obtaining sufficient quantities of our product candidates for use in preclinical studies and clinical trials from third-party suppliers on a timely basis; and
- delays due to the COVID-19 pandemic, including the implementation of a temporary work from home policy following the California state order for all residents to remain at home, except as needed for essential activities, or reduced workforce resulting from illness, or delays at our third-party contract research organizations throughout the world, due to similar restrictions imposed by governments or reduced workforce resulting from illness.

Moreover, even if clinical trials do begin for our preclinical programs, our development efforts may not be successful, and clinical trials that we conduct or that third parties conduct on our behalf may not demonstrate sufficient safety or efficacy to obtain the requisite regulatory approvals for any product candidates we develop. Even if we obtain positive results from preclinical studies or initial clinical trials, we may not achieve the same success in future trials.

Some of our programs focus on the discovery and development of “Beyond Rule of 5” small molecules. Such molecules can be associated with longer development timelines and greater costs compared to traditional small molecule drugs. Our “Beyond Rule of 5” product candidates may take longer to develop and/or manufacture relative to traditional small molecules, and we may not be able to formulate “Beyond Rule of 5” candidates for certain routes of administration.

We enlist various technologies and capabilities that give us chemical access to challenging sites on target proteins that generally are not accessible using conventional small molecule drug discovery approaches. For each target, we consider the specific structural, physico-chemical, functional and dynamic properties of the target and deploy the approach or approaches that appear most likely to yield viable development candidates. The “Rule of 5” is a set of criteria used in pharmaceutical drug development to determine whether chemical compounds have certain physico-chemical properties that make them likely to be orally active drugs in humans. In some instances, the compounds we discover and develop are traditional small molecules (i.e. less than 500 daltons) with properties that generally satisfy conventional pharmaceutical “Rule of 5” criteria, while in other cases, they are larger (i.e. 500-1000 daltons) “Beyond Rule of 5”, or BRo5, compounds that by definition do not satisfy these criteria. For example, our mTORC1 program and our RAS(ON) program each include pursuit of BRo5 compounds.

BRo5 compounds have been successfully pursued by many pharmaceutical companies. Examples of BRo5 compounds include natural products and semi-synthetic derivatives, peptidomimetics, macrocycles and degraders. However, larger molecular weight small molecules often cannot be formulated into orally absorbed drugs and also often face solubility, potency, bioavailability and stability challenges, among others. In addition, many of the commonly used predictive and other drug development tools are designed specifically for small molecule drugs rather than larger molecules, contributing to the difficulty and uncertainty of development of BRo5 compounds.

Due to their size and complexity, drug development of our BRo5 compounds may be slower and/or more expensive than drug development of traditional “Rule of 5” compounds, resulting in program delays, increased costs or failure to obtain regulatory approval in a commercially reasonable timeframe, if at all. Our competitors developing traditional small molecules in areas where we are developing BRo5 compounds could obtain regulatory approval and reach the market before we do. Even if we succeed in generating an approved drug from a BRo5 compound, it may be less convenient to administer, have higher grade and/or more frequent side effects or be more costly to manufacture and formulate than competing products on the market. The discovery and development of BRo5 small molecules may pose risks to us such as:

- BRo5 small molecules may present difficult synthetic chemistry and manufacturing challenges, including with any scale-up of our product candidates in sufficient quality and quantity;
- BRo5 small molecules may be challenging to purify, including with any scale-up of our product candidates in sufficient quality and quantity;
- BRo5 small molecules may present solubility challenges in the development of any such small molecules;

- BRo5 small molecules may present oral absorption challenges due to low passive permeability;
- BRo5 small molecules may present cell permeability challenges, especially with regards to lipophilicity, hydrogen bond donor and rotatable bond count, and high topological polar surface area;
- Any BRo5 small molecules we seek to develop may not achieve acceptable oral bioavailability for development and may result in poor pharmaceutical properties for formulation development;
- Any BRo5 small molecules we seek to develop may have a propensity to be substrates for efflux proteins such as the adenosine triphosphate (ATP) binding cassette (ABC) transporter protein family, including multidrug resistance protein 1. Cancer cells may overexpress these transporter proteins causing an increase in expulsion of our product candidate from the cell. As the site of action of our product candidates, for example the RAS protein, is inside the cell, expulsion by these transporter proteins may decrease the effective concentration in the cell sufficiently to reduce target inhibition and thereby render a RAS-dependent tumor less susceptible to the inhibitory activity of the product candidate;
- BRo5 small molecules may present central nervous system, or CNS, penetration challenges due to low passive permeability and/or interaction with efflux transporters at the blood brain barrier and this could limit sensitivity of CNS tumors to our product candidates;
- BRo5 small molecules may present formulation vehicle challenges for administration, such as intravenous and subcutaneous administration, due to aspects such as solubility and hydrophobicity;
- BRo5 small molecules may present stability and shelf-life limitations due to the incorporation of labile functionality in our scaffolds, including for example in the development of RMC-5552 which currently requires a cold chain storage of zero degrees Celsius; and
- BRo5 small molecules may present off-target toxicities due to physico-chemical properties such as lipophilicity, which is the ability to dissolve fats, oils and lipids, the presence of off-target pharmacophores in the molecule that can interact with other cellular proteins, or other characteristics that have not been fully characterized within a novel chemical scaffold or platform.

These and other risks related to our research and development of BRo5 small molecules may result in delays in development, an increase in development costs and/or the failure to develop any BRo5 small molecule to approval. As a result, our competitors may develop products more rapidly and cost effectively than we do. In particular, competitors may develop and commercialize a product that competes with a product candidate we may develop from our RAS(ON) program as some of our competitors in this area are pursuing conventional small molecules directed to other forms of RAS, such as RAS(OFF), and are further along in development than we currently are. Any such setbacks in our research and development of a BRo5 small molecule could have a material adverse effect on our business and operating results.

The regulatory approval processes of the FDA, the EMA and comparable foreign authorities are lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA, the EMA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that none of our current or future product candidates will ever obtain regulatory approval.

Our current and future product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA, the EMA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA, the EMA or comparable foreign regulatory authorities that a product candidate is safe or effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical significance required by the FDA, the EMA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA, the EMA or comparable foreign regulatory authorities may disagree with our interpretation of data from clinical trials or preclinical studies;

- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of an NDA to the FDA or other submission or to obtain regulatory approval in the United States, the European Union or elsewhere;
- the FDA, the EMA or comparable foreign regulatory authorities may find deficiencies with or fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA, the EMA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process as well as the unpredictability of clinical trial results may result in our failing to obtain regulatory approval to market any product candidate we develop, which would significantly harm our business, results of operations and prospects. The FDA, the EMA and other comparable foreign authorities have substantial discretion in the approval process, and determining when or whether regulatory approval will be obtained for any product candidate that we develop. Even if we believe the data collected from future clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA, the EMA or any other regulatory authority.

In addition, even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Further, we have not previously submitted a NDA to the FDA, or a Marketing Authorization Application, or MAA, to the EMA. We cannot be certain that any of our programs will be successful in clinical trials or receive regulatory approval. Further, product candidates we develop may not receive regulatory approval even if they are successful in clinical trials. If we do not receive regulatory approvals for our product candidates, we may not be able to continue our operations.

Clinical product development involves a lengthy and expensive process, with uncertain outcomes. We may experience delays in completing, or ultimately be unable to complete, the development and commercialization of our current and future product candidates.

To obtain the requisite regulatory approvals to commercialize any of our product candidates, we must demonstrate through extensive preclinical studies and clinical trials that our products are safe or effective in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process and our future clinical trial results may not be successful.

We may experience delays in completing our clinical trials or preclinical studies and initiating or completing additional clinical trials. We may also experience numerous unforeseen events during our clinical trials that could delay or prevent our ability to receive marketing approval or commercialize the product candidates we develop, including:

- regulators or Institutional Review Boards, or IRBs, or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective contract research organizations, or CROs;
- the number of patients required for clinical trials may be larger than we anticipate;
- it may be difficult to enroll a sufficient number of patients with mutations in the signaling pathways our therapies are designed to target, or enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that we add new clinical trial sites or investigators;
- the supply or quality of materials for product candidates we develop or other materials necessary to conduct clinical trials may be insufficient or inadequate; and
- our collaborators may delay the development process by waiting to take action or focusing on other priorities.

We could encounter delays if a clinical trial is suspended or terminated by us, by the IRBs or ethics committees of the institutions in which such trials are being conducted, by the Data Safety Monitoring Board, or DSMB, for such trial or by the FDA or other regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of marketing approval of our product candidates.

If we experience delays in the completion of, or termination of, any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Significant clinical trial delays could also allow our competitors to bring products to market before we do or shorten any periods during which we have the exclusive right to commercialize our product candidates and impair our ability to commercialize our product candidates and may harm our business and results of operations.

All of our clinical trial sites for our RMC-4630 clinical studies are located in the U.S., and may be affected by the COVID-19 outbreak due to prioritization of hospital resources toward the COVID-19 outbreak, travel or quarantine restrictions imposed by federal, state or local governments, and the inability to access sites for initiation and patient monitoring and enrollment. As a result, patient screening, new patient enrollment, monitoring and data collection may be affected or delayed. We are aware of several clinical sites involved in our RMC-4630 clinical studies that have temporarily stopped or delayed enrolling new patients, with exemptions if appropriate. These developments may delay our clinical trial timelines. Some of our third-party manufacturers which we use for the supply of materials for product candidates or other materials necessary to manufacture product to conduct clinical trials are located in countries affected by COVID-19, and should they experience disruptions, such as temporary closures or suspension of services, we would likely experience delays in advancing these trials. Currently, we expect no material impact on the clinical supply of RMC-4630.

In addition, based on our own preclinical data and supported by observations by others, we are evaluating intermittent dosing schedules in our clinical program to allow us to maximize dose intensity and the depth of response. When dosed in clinical trials, this intermittent dosing approach may reduce patient compliance.

Any of these occurrences may harm our business, financial condition and prospects significantly. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates or result in the development of our product candidates being stopped early.

Historically, direct inhibition of any RAS protein itself has been challenging due to a lack of tractable, or “druggable,” binding pockets and we are not aware of any programs in clinical development that have successfully targeted any RAS(ON) protein. Given this approach is unproven, it may not be successful.

Historically, direct inhibition of any RAS protein has been challenging due to a lack of tractable, or “druggable,” binding pockets. Our tri-complex technology has enabled us to develop what we believe to be the first potent, selective cell-active inhibitors of multiple mutant RAS(ON) proteins. We are not aware of any programs in clinical development that have successfully targeted any RAS(ON) protein. We cannot be certain that our approach will lead to the development of approvable or marketable products, alone or in combination with other therapies.

The results of preclinical studies and early-stage clinical trials may not be predictive of future results.

The results of preclinical studies may not be predictive of the results of clinical trials, and the results of any early-stage clinical trials we commence may not be predictive of the results of the later-stage clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy despite having progressed through preclinical studies and initial clinical trials. There can be no assurance that any of our current or future clinical trials will ultimately be successful or support further clinical development of any of our product candidates. There is a high failure rate for drugs proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving promising results in earlier studies. Even if our clinical trials are completed, the results may not be sufficient to obtain regulatory approval of any products. Any such setbacks in our clinical development could have a material adverse effect on our business and operating results.

Interim, “topline” and preliminary data from our clinical trials may differ materially from the final data.

From time to time, we may disclose interim data from our clinical trials. Interim data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more data on existing patients become available. For example, we have reported interim Phase 1 clinical data for RMC-4630 as a single agent. As of the cutoff date, 63 patients had received treatment: 49 patients on a daily dosing schedule with a median exposure to study drug of only 1.8 months, and 14 patients on an intermittent dosing schedule, with median exposure to study drug of only 1.6 months. We have also reported interim Phase 1b/2 clinical data for RMC-4630 in combination with the MEK inhibitor cobimetinib. As of the cutoff date, these data included eight patients with median exposure to study drug of only 1.4 months. Our clinical trial program is ongoing, and the final results may be materially different from what is reported in this Annual Report on Form 10-K. Adverse differences between interim data and final data could significantly harm our business, financial condition, results of operations and prospects. From time to time, we may also publicly disclose preliminary or “topline” data from our clinical trials, which are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline results that we report may differ from future results of the same clinical trials, or different conclusions or considerations may qualify such topline results, once additional data have been received and fully evaluated. Topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, topline data should be viewed with caution until the final data are available.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and the value of our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is typically a summary of extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or our business. If the topline data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, financial condition, operating results and prospects.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise be adversely affected.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The enrollment of patients depends on many factors, including:

- the patient eligibility criteria defined in the protocol;
- our ability to enroll a sufficient number of patients with mutations in the signaling pathways our therapies are designed to target;
- the size of the patient population required for analysis of the trial’s primary endpoints;
- the proximity of patients to study sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians’ and patients’ perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new products that may be approved for the indications we are investigating;
- our ability to obtain and maintain patient consents for participation in our clinical trials and, where appropriate, biopsies for future patient enrichment efforts;
- the risk that patients enrolled in clinical trials will not remain on the trial through the completion of evaluation; and
- the ability of our clinical trial investigators to enroll patients in cases of outbreak of disease, including COVID-19, or other natural disasters.

In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic areas (and that seek to evaluate patients with cancer cells having the same mutations, particularly with patients having KRASG12C mutations) as our current and potential future product candidates. This competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such sites. Moreover, because our current and potential future product candidates may represent a departure from more commonly used methods for cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, such as chemotherapy, rather than enroll patients in our ongoing or any future clinical trial.

All of our clinical trial sites for our RMC-4630 clinical studies are located in the U.S., and may be affected by the COVID-19 outbreak due to prioritization of hospital resources toward the COVID-19 outbreak, travel or quarantine restrictions imposed by federal, state or local governments, and the inability to access sites for initiation and patient monitoring and enrollment. As a result, patient screening, new patient enrollment, monitoring and data collection may be affected or delayed. We are aware of several clinical sites involved in our RMC-4630 clinical studies that have temporarily stopped or delayed enrolling new patients, with exemptions if appropriate. These developments may delay our clinical trial timelines. Some of our third-party manufacturers which we use for the supply of materials for product candidates or other materials necessary to manufacture product to conduct clinical trials are located in countries affected by COVID-19, and should they experience disruptions, such as temporary closures or suspension of services, we would likely experience delays in advancing these trials. Currently, we expect no material impact on the clinical supply of RMC-4630.

Delays in patient enrollment may result in increased costs or may affect the timing or outcome of clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of the product candidates we develop.

Our current or future product candidates may cause undesirable side effects or have other properties when used alone or in combination with other approved products or investigational new drugs that could delay or halt their clinical development, prevent their marketing approval, limit their commercial potential or result in significant negative consequences.

Undesirable or clinically unmanageable side effects could occur and cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of marketing approval by the FDA or comparable foreign regulatory authorities. Results of our trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics.

The RMC-4630-01 study is evaluating the safety, pharmacokinetics and pharmacodynamic effects of RMC-4630 as a single agent under two different dosing schedules: daily and intermittent. For those receiving RMC-4630 on the intermittent dosing schedule, there was one treatment-related serious adverse event, or SAE, (grade 3 abdominal distention) as of the cutoff date. No treatment-related grade 4 or grade 5 adverse events, or AEs, had been reported as of the cutoff date. The most common treatment related AEs for the intermittent dosing group were anemia (35.7%), fatigue (35.7%), thrombocytopenia (35.7%) and edema (28.6%). For those receiving RMC-4630 on the daily schedule, three SAEs were deemed possibly or probably related to the treatment (dehydration, anasarca (generalized edema) and thrombocytopenia), and an additional three SAEs (extensive metastases of tumor in the lungs with grade 4 respiratory failure, fever and radiologic evidence of infectious pneumonia with grade 4 respiratory failure and a single reading of grade 3 prolongation of QTc) were reported in which the investigator was unable to rule out an association with the treatment. The most common treatment related AEs for the daily dosing group were thrombocytopenia (28.6%), diarrhea (24.5%) and anemia (22.4%).

The RMC-4630-02 study evaluates the safety, tolerability and pharmacokinetics of RMC-4630 and cobimetinib using intermittent dosing of RMC-4630 with daily dosing of cobimetinib. An alternative schedule using intermittent dosing of both RMC-4630 and cobimetinib is planned, but has not begun dosing. Adverse events were consistent with the expected mechanistic effects of both SHP2 inhibition and MEK inhibition. No SAEs or grade 4 or 5 AEs were reported in the RMC-4630-02 study as of the cutoff date. The most common AEs related to RMC-4630 were diarrhea (25.0%) and edema (25.0%). The most common AE related to cobimetinib was edema (25.0%).

Although our current and future product candidates will undergo safety testing to the extent possible and, where applicable, under such conditions discussed with regulatory authorities, not all adverse effects of drugs can be predicted or anticipated. Unforeseen side effects could arise either during clinical development or, if such side effects are more rare, after our products have been approved by regulatory authorities and the approved product has been marketed, resulting in the exposure of additional patients. So far, we have not previously demonstrated that RMC-4630 or any other product candidate is safe in humans, and we cannot predict if ongoing or future clinical trials will do so.

Furthermore, certain of our product candidates, such as RMC-4630, are currently being, and may in the future be, co-administered with approved or experimental therapies, such as Roche's cobimetinib, Amgen's AMG 510, or Lilly's LY-3214996.

These combinations may have additional side effects. The uncertainty resulting from the use of our product candidates in combination with other therapies may make it difficult to accurately predict side effects in future clinical trials.

If any of our product candidates receives marketing approval and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product;
- we may be required to recall a product or change the way such product is administered to patients;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof;
- regulatory authorities may require the addition of labeling statements, such as a “black box” warning or a contraindication;
- we may be required to implement a Risk Evaluation and Mitigation Strategy, or REMS, or create a Medication Guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of the foregoing events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and result in the loss of significant revenues to us, which would adversely affect our business, financial condition, results of operations and prospects. In addition, if one or more of our product candidates prove to be unsafe, our entire technology platform and pipeline could be affected, which would have a material adverse effect on our business, financial condition, results of operations and prospects.

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us or any of our existing or future collaboration partners from obtaining approvals for the commercialization of RMC-4630 and any other product candidate we develop.

Any current or future product candidate we may develop and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. We have not received approval to market any product candidates from regulatory authorities in any jurisdiction and it is possible that none of our current or future product candidates will ever obtain regulatory approval. We have no experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party CROs or regulatory consultants to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate’s safety and efficacy. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Any product candidates we develop may not be effective, may be only moderately effective, or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity, and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

If we experience delays in obtaining approval or if we fail to obtain approval of any current or future product candidates we may develop, the commercial prospects for those product candidates may be harmed, and our ability to generate revenues will be materially impaired.

Obtaining and maintaining marketing approval of our current and future product candidates in one jurisdiction does not mean that we will be successful in obtaining marketing approval of our current and future product candidates in other jurisdictions.

Obtaining and maintaining marketing approval of our current and future product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain marketing approval in any other jurisdiction, while a failure or delay in obtaining marketing approval in one jurisdiction may have a negative effect on the marketing approval process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials as clinical studies conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval.

We may also submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign marketing approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

Adverse events in the field of oncology could damage public perception of our current or future product candidates and negatively affect our business.

The commercial success of our products will depend in part on public acceptance of the use of targeted cancer therapies. While a number of targeted cancer therapies have received regulatory approval and are being commercialized, our approach to targeting cancer cells carrying tumor causing mutations, including oncogenic RAS(ON) pathway mutations, is novel and unproven. Adverse events in clinical trials of our product candidates, or post-marketing activities, or in clinical trials of others developing similar products and the resulting publicity, as well as any other adverse events in the field of oncology that may occur in the future, could result in a decrease in demand for any product that we may develop. If public perception is influenced by claims that the use of cancer therapies is unsafe, whether related to our therapies or those of our competitors, our products may not be accepted by the general public or the medical community.

Future adverse events in oncology or the biopharmaceutical industry could also result in greater governmental regulation, stricter labeling requirements and potential regulatory delays in the testing or approvals of our products. Any increased scrutiny could delay or increase the costs of obtaining marketing approval for the product candidates we develop.

Even if we receive marketing approval of a product candidate, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products, if approved.

Any marketing approvals that we receive for any current or future product candidate may be subject to limitations on the approved indicated uses for which the product may be marketed or the conditions of approval, or contain requirements for potentially costly post-market testing and surveillance to monitor the safety and efficacy of the product candidate. The FDA may also require REMS as a condition of approval of any product candidate, which could include requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves a product candidate, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import and export and record keeping for the product candidate will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with current Good Manufacturing Practice, or cGMP, and Good Clinical Practice, or GCP, for any clinical trials that we conduct post-approval. Later discovery of previously unknown problems with any approved candidate, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or product recalls;
- fines, untitled and warning letters, or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications we filed or suspension or revocation of license approvals;

- product seizure or detention, or refusal to permit the import or export of the product; and
- injunctions or the imposition of civil or criminal penalties.

The FDA's and other regulatory authorities' policies may change, and additional government regulations may be enacted that could prevent, limit or delay marketing approval of a product. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, and we may not achieve or sustain profitability.

Even if a current or future product candidate receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any current or future product candidate we develop receives marketing approval, whether as a single agent or in combination with other therapies, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors, and others in the medical community. For example, current approved immunotherapies, and other cancer treatments like chemotherapy and radiation therapy, are well established in the medical community, and doctors may continue to rely on these therapies. If the product candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of any product candidate, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the ability to offer our products, if approved, for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the ability to obtain sufficient third-party coverage and adequate reimbursement, including with respect to the use of the approved product as a combination therapy;
- adoption of a companion diagnostic and/or complementary diagnostic (if any); and
- the prevalence and severity of any side effects.

The market opportunities for any current or future product candidate we develop, if and when approved, may be limited to those patients who are ineligible for established therapies or for whom prior therapies have failed, and may be small.

Cancer therapies are sometimes characterized as first-line, second-line, or third-line, and the FDA often approves new therapies initially only for third-line use. When cancer is detected early enough, first-line therapy, usually chemotherapy, hormone therapy, surgery, radiation therapy or a combination of these, is sometimes adequate to cure the cancer or prolong life without a cure. Second- and third-line therapies are administered to patients when prior therapy is not effective. We expect to initially seek approval of RMC-4630 and any other product candidates we develop as a therapy for patients who have received one or more prior treatments. Subsequently, for those products that prove to be sufficiently beneficial, if any, we would expect to seek approval potentially as a first-line therapy, but there is no guarantee that product candidates we develop, even if approved, would be approved for first-line therapy, and, prior to any such approvals, we may have to conduct additional clinical trials.

The number of patients who have the cancers we are targeting may turn out to be lower than expected. Additionally, the potentially addressable patient population for our current programs or future product candidates may be limited, if and when approved. Even if we obtain significant market share for any product candidate, if and when approved, if the potential target populations are small, we may never achieve profitability without obtaining marketing approval for additional indications, including to be used as first- or second-line therapy.

We are developing RMC-4630 in combination with Roche's cobimetinib, and may in the future, develop RMC-4630 and other product candidates in combination with other therapies, such as Amgen's AMG 510, which exposes us to additional risks.

We are developing RMC-4630 in combination with Roche's cobimetinib, and may in the future, develop RMC-4630 and other product candidates in combination with one or more currently approved cancer therapies. Even if any product candidate we develop were to receive marketing approval or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA or similar regulatory authorities outside of the United States could revoke approval of the therapy used in combination with our product candidate or that safety, efficacy, manufacturing or supply issues could arise with these existing therapies. Combination therapies are commonly used for the treatment of cancer, and we would be subject to similar risks if we develop any of our product candidates for use in combination with other drugs or for indications other than cancer. This could result in our own products being removed from the market or being less successful commercially.

We may also evaluate RMC-4630 or any other current or future product candidates in combination with one or more other cancer therapies, such as AMG 510 or Lilly's LY-3214996, that have not yet been approved for marketing by the FDA or similar regulatory authorities outside of the United States. We will not be able to market and sell RMC-4630 or any product candidate we develop in combination with any such unapproved cancer therapies that do not ultimately obtain marketing approval.

If the FDA or similar regulatory authorities outside of the United States do not approve these other drugs or revoke their approval of, or if safety, efficacy, manufacturing, or supply issues arise with, the drugs we choose to evaluate in combination with or any product candidate we develop, we may be unable to obtain approval of or market or any product candidate we develop.

In addition, Sanofi primarily controls the research and development activities of our SHP2 inhibitors, including RMC-4630, pursuant to the terms of the Sanofi Agreement, and may disagree with us regarding which other therapies should be evaluated in combination with RMC-4630. As a result of this disagreement, our completion of a trial in combination with our preferred combination product candidate may be delayed or prevented. We rely on Sanofi for the supply of RMC-4630 for future combination studies and if Sanofi is unwilling to supply RMC-4630 to be used in combination with a product candidate from our pipeline, our ability to complete a trial evaluating such combination may be delayed or prevented.

We face significant competition, and if our competitors develop and market products that are more effective, safer or less expensive than the product candidates we develop, our commercial opportunities will be negatively impacted.

The life sciences industry is highly competitive. We are currently developing therapies that will compete, if approved, with other products and therapies that currently exist or are being developed. Products we may develop in the future are also likely to face competition from other products and therapies, some of which we may not currently be aware. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, universities and other research institutions. Many of our competitors have significantly greater financial, manufacturing, marketing, product development, technical and human resources than we do. Large pharmaceutical companies, in particular, have extensive experience in clinical testing, obtaining marketing approvals, recruiting patients and manufacturing pharmaceutical products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in late stages of development, and collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. As a result of all of these factors, our competitors may succeed in obtaining patent protection and/or marketing approval or discovering, developing and commercializing products in our field before we do.

There are a large number of companies developing or marketing treatments for cancer, including many major pharmaceutical and biotechnology companies. These treatments consist of small molecule drug products, biologics, cell-based therapies and traditional chemotherapy. There are also several programs in development targeting SHP2, including those clinical programs run by Novartis AG, Jacobio Pharmaceuticals Co. Ltd., and Relay Therapeutics Inc. There are several RAS pathway mutations programs, including those directed at KRASG12C(OFF) and KRASG12D(OFF) mutations, including clinical programs directed at KRASG12C(OFF) being conducted by Amgen Inc., Mirati Therapeutics, Inc., Johnson & Johnson, AstraZeneca plc and Eli Lilly & Co. Other clinical programs directed at mutant RAS are being conducted by Merck & Co./Moderna Therapeutics, Boehringer Ingelheim and Gilead Sciences, Inc.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe effects, are more convenient, have a broader label, are marketed more effectively, are reimbursed or are less expensive than any products that we may develop. Our competitors also may obtain FDA, EMA or other marketing approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Even if the product candidate we develop achieve marketing approval, they may be priced at a significant premium over competitive products if any have been approved by then, resulting in reduced competitiveness.

Smaller and other early stage companies may also prove to be significant competitors. In addition, academic research departments and public and private research institutions may be conducting research on compounds that could prove to be competitive. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. In addition, the biopharmaceutical industry is characterized by rapid technological change. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Technological advances or products developed by our competitors may render our product candidates obsolete, less competitive or not economical.

Even if we are able to commercialize any product candidates, such products may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

The regulations that govern marketing approvals, pricing and reimbursement for new products vary widely from country to country. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product candidate in a particular country, but then be subject to price regulations that delay our commercial launch of the product candidate, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product candidate in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval.

Our ability to commercialize any product candidates, whether as a single agent or combination therapy, successfully also will depend in part on the extent to which coverage and reimbursement for these product candidates and related treatments will be available from government authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. It is difficult to predict at this time what government authorities and third-party payors will decide with respect to coverage and reimbursement for our programs.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular products and requiring substitutions of generic products and/or biosimilars. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for drugs. We cannot be sure that coverage will be available for any product candidate that we commercialize and, if coverage is available, the level of reimbursement. These third-party payors are also examining the cost-effectiveness of drugs in addition to their safety and efficacy.

Reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, as the process is time-consuming and costly, and coverage may be more limited than the purposes for which the drug is approved by the FDA or comparable foreign regulatory authorities. Additionally, no uniform policy requirement for coverage and reimbursement for drug products exists among third-party payors in the United States, which may result in coverage and reimbursement for drug products that can differ significantly from payor to payor. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved drugs that

we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize drugs and our overall financial condition.

We may fail to select or capitalize on the most scientifically, clinically and commercially promising or profitable mutant RAS(ON) target.

We have limited technical, managerial and financial resources to determine which of our lead generation stage RAS(ON) inhibitors should be advanced into further preclinical development, initial clinical trials, later-stage clinical development and potential commercialization. Initially, we are prioritizing four mutant RAS(ON) targets—KRASG12C, KRASG13C, KRASG12D and NRASG12C—and expect to nominate our first development candidate in 2020. In selecting a development candidate, we may make incorrect determinations. Our decisions to allocate our research and development, management and financial resources toward particular development candidates or therapeutic areas may not lead to the development of viable commercial products and may divert resources from better opportunities. Similarly, our decisions to delay or terminate development programs may also be incorrect and could cause us to miss valuable opportunities.

We may not be successful in our efforts to identify or discover other product candidates and may fail to capitalize on programs or product candidates that may present a greater commercial opportunity or for which there is a greater likelihood of success.

The success of our business depends upon our ability to identify, develop and commercialize product candidates. If we do not successfully develop and eventually commercialize products, we will face difficulty in obtaining product revenue in future periods, resulting in significant harm to our financial position and adversely affecting our share price. Research programs to identify new product candidates require substantial technical, financial and human resources, and we may fail to identify potential product candidates for numerous reasons.

Additionally, because we have limited resources beyond those provided by Sanofi on SHP2 and RMC-4630, we may forego or delay pursuit of opportunities with certain programs or product candidates or for indications that later prove to have greater commercial potential. For example, we currently intend to focus on the development of RMC-4630. However, the advancement of this product candidate may ultimately prove to be unsuccessful or less successful than another program in our pipeline that we might have chosen to pursue on a less aggressive basis. Our estimates regarding the potential market for our product candidates could be inaccurate, and our spending on current and future research and development programs may not yield any commercially viable products. If we do not accurately evaluate the commercial potential for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. For example, we licensed worldwide development and commercialization rights with respect to RMC-4630 to Sanofi and will receive only milestone payments, an equal share of profits and losses in the United States and royalties on annual net sales of each product outside the United States. Alternatively, we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

If any of these events occur, we may be forced to abandon or delay our development efforts with respect to a particular product candidate or fail to develop a potentially successful product candidate, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may need to use existing commercial diagnostic tests or develop, or enter into a collaboration or partnership to develop, novel complementary diagnostics and/or novel companion diagnostics for some of our current or future product candidates. If we or our future partners are unable to successfully develop such companion diagnostics or complementary diagnostics, or experience significant delays in doing so, we may not realize the full commercial potential of our future product candidates.

As one of the key elements of our product development strategy, we seek to identify cancer patient populations that may derive meaningful benefit from our current or future product candidates. Because predictive biomarkers may be used to identify the right patients for our programs and our current or future product candidates, we believe that our success may depend, in part, on our ability to use existing diagnostic tests (such as Foundation Medicine's FoundationOne® CDX), or develop novel complementary diagnostics and/or novel companion diagnostics in collaboration with partners.

In the event that novel tests will need to be developed, we have little experience in the development of diagnostics. As such, we expect to rely on future partners in developing appropriate diagnostics to pair with our current or future product candidates. We have not yet begun discussions with any potential partners with respect to the development of complementary diagnostics and/or companion diagnostics and may be unsuccessful in entering into collaborations for the development of companion diagnostics for our programs and our current or future product candidates.

Complementary diagnostics and/or companion diagnostics are subject to regulation by the FDA and similar regulatory authorities outside the United States as medical devices and require separate regulatory approval or clearance prior to commercialization. If we, our partners, or any third parties that we engage to assist us, are unable to successfully develop complementary diagnostics and/or companion diagnostics for our product candidates and any future product candidates, or experience delays in doing so:

- the development of our product candidates and any other future product candidates may be adversely affected if we are unable to appropriately select patients for enrollment in our clinical trials; and
- we may not realize the full commercial potential of our product candidates and any other future product candidates that receive marketing approval if, among other reasons, we are unable to appropriately identify, or it takes us longer to identify, patients who are likely to benefit from therapy with our products, if approved.

If any of these events were to occur, our business would be harmed, possibly materially.

We may seek and fail to obtain fast track or breakthrough therapy designations for our current or future product candidates. If we are successful, these programs may not lead to a faster development or regulatory review process, and they do not guarantee we will receive approval for any product candidate. We may also seek to obtain accelerated approval for one or more of our product candidates but the FDA may disagree that we have met the requirements for such approval.

If a product is intended for the treatment of a serious or life-threatening condition and preclinical or clinical data demonstrate the potential to address an unmet medical need for this condition, the product sponsor may apply for fast track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive fast track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may rescind the fast track designation if it believes that the designation is no longer supported by data from our clinical development program.

We may also seek breakthrough therapy designation for any product candidate that we develop. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Like fast track designation, breakthrough therapy designation is within the discretion of the FDA. Accordingly, even if we believe a product candidate we develop meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if a product candidate we develop qualifies as a breakthrough therapy, the FDA may later decide that the drug no longer meets the conditions for qualification and rescind the designation.

Drugs designated as fast track products or breakthrough therapies by the FDA are also eligible for accelerated approval if the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA requires pre-approval of promotional materials for accelerated approval products, once approved. We cannot guarantee that the FDA will agree any of our product candidates has met the criteria to receive accelerated approval, which would require us to conduct additional clinical testing prior to seeking FDA approval. Even if any of our product candidates received approval through this pathway, the product may fail required post-approval confirmatory clinical trials, and we may be required to remove the product from the market or amend the product label in a way that adversely impacts its marketing.

We may seek Orphan Drug Designation for product candidates we develop, and we may be unsuccessful or may be unable to maintain the benefits associated with Orphan Drug Designation, including the potential for market exclusivity.

As part of our business strategy, we may seek Orphan Drug Designation for any product candidates we develop, and we may be unsuccessful. Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the United States, Orphan Drug Designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Similarly, in Europe, the European Commission grants Orphan Drug Designation after receiving the opinion of the EMA Committee for Orphan Medicinal Products on an Orphan Drug Designation application. Orphan Drug Designation is intended to promote the development of drugs that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than 5 in 10,000 persons in Europe and for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the product would be a significant benefit to those affected). Additionally, designation is granted for drugs intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in Europe would be sufficient to justify the necessary investment in developing the drug. In Europe, Orphan Drug Designation entitles a party to a number of incentives, such as protocol assistance and scientific advice specifically for designated orphan medicines, and potential fee reductions depending on the status of the sponsor.

Generally, if a drug with an Orphan Drug Designation subsequently receives the first marketing approval for the indication for which it has such designation, the drug is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same drug and indication for that time period, except in limited circumstances. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for Orphan Drug Designation or if the drug is sufficiently profitable such that market exclusivity is no longer justified.

Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different therapies can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. Orphan Drug Designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process. While we may seek Orphan Drug Designation for applicable indications for our current and any future product candidates, we may never receive such designations. Even if we do receive such designations, there is no guarantee that we will enjoy the benefits of those designations.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of any approved products.

We face an inherent risk of product liability as a result of the clinical testing of product candidates and will face an even greater risk if we commercialize any products. For example, we may be sued if any product candidate we develop causes or is perceived to cause injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of any approved products. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for any approved product;
- injury to our reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;

- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize any product candidate; and
- a decline in our share price.

Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop, alone or with collaboration partners.

Insurance coverage is increasingly expensive. We may not be able to maintain insurance at a reasonable cost or in an amount adequate to satisfy any liability that may arise, if at all. Our insurance policy contains various exclusions, and we may be subject to a product liability claim for which we have no coverage. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with Sanofi or any future collaborator entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Affordable Care Act, or the ACA, was passed, which substantially changes the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA, among other things, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and creates a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D.

Some of the provisions of the ACA have yet to be fully implemented, while certain provisions have been subject to judicial and Congressional challenges, as well as efforts by the Trump administration to repeal or replace certain aspects of the ACA. Since January 2017, President Trump has signed two Executive Orders designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been signed into law. The TJCA includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to reduce the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the TJCA. While the Texas U.S. District Court Judge, as well as the Trump administration and Centers for Medicare and Medicaid Services, or CMS, have stated that the ruling will have no immediate effect pending appeal of the decision, it is unclear how this decision, subsequent appeals, and other efforts to repeal and replace the ACA will impact the ACA and our business. The effect that the ACA and its possible repeal and replacement may have on our business remains unclear.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2027 unless additional congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for any product candidate we develop or complementary diagnostics or companion diagnostics or additional pricing pressures.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs.

We are subject to certain U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations. We can face serious consequences for violations.

Among other matters, U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations, which are collectively referred to as Trade Laws, prohibit companies and their employees, agents, clinical research organizations, legal counsel, accountants, consultants, contractors, and other partners from authorizing, promising, offering, providing, soliciting, or receiving directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. Violations of Trade Laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We also expect our non-U.S. activities to increase in time. We plan to engage third parties for clinical trials and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals and we can be held liable for the corrupt or other illegal activities of our personnel, agents, or partners, even if we do not explicitly authorize or have prior knowledge of such activities.

Risks related to reliance on third parties

We are dependent on our collaboration with Sanofi for the development of RMC-4630 and may depend on Sanofi for the development and commercialization of any other future SHP2 inhibitor product candidates. Under certain circumstances, Sanofi may unilaterally terminate the collaboration for convenience, which would materially and adversely affect our business.

In June 2018, we entered into a collaborative research, development and commercialization agreement with Sanofi, or the Sanofi Agreement, focused on researching, developing and commercializing SHP2 inhibitors as cancer therapies and potentially other indications. Sanofi primarily controls the research and development activities pursuant to the terms of the Sanofi Agreement, and our lack of control over such activities, including with respect to RMC-4630, could result in delays or other difficulties in the development and commercialization of product candidates, which may prevent completion of intended NDA filings in a timely fashion, if at all. Because of the allocation of responsibilities under the Sanofi Agreement, we are wholly dependent on Sanofi for the success of the RMC-4630 program. Any dispute with Sanofi may result in the delay or termination of the research, development or commercialization of RMC-4630 or other SHP2 inhibitor product candidates, and may result in costly litigation that diverts management attention and resources away from our day-to-day activities, which may adversely affect our business, financial condition, results of operation and prospects. For example, we plan to evaluate RMC-4630 in combination with other therapies (which may include product candidates from our pipeline), and Sanofi may disagree with us regarding which other therapies should be evaluated in combination with RMC-4630. As a result of this disagreement, our completion of a trial in combination with our preferred combination product candidate may be delayed or prevented. We rely on Sanofi for the supply of RMC-4630 for future combination studies and if Sanofi is unwilling to supply RMC-4630 to be used in combination with a product candidate from our pipeline, our ability to complete a trial evaluating such combination may be delayed or prevented.

In addition, Sanofi can terminate the Sanofi Agreement (including for convenience), and in the event Sanofi terminates the Sanofi Agreement, we would be prevented from receiving any research and development funding, milestone payments, profit share payments, royalty payments and other benefits under that agreement. Termination of the Sanofi Agreement could require us to seek additional funding in order to avoid delaying, reducing the scope of, or suspending, one or more of our research and development programs or clinical trials. In addition, any decision by Sanofi to terminate the Sanofi Agreement may negatively impact public perception of RMC-4630, or all of the SHP2 program covered by the Sanofi Agreement, which could adversely affect the market price of our common stock. We cannot provide any assurance with respect to the success of the Sanofi collaboration. Any of the foregoing events could have a materially adverse effect on our business, financial condition, results of operation and prospects. For more information regarding the Sanofi Agreement, see “Business—Collaboration agreement with Sanofi.”

In addition to our collaboration with Sanofi, we may depend on collaborations with other third parties for the development and commercialization of our product candidates in the future. If our collaborations are not successful, we may not be able to capitalize on the market potential of these product candidates.

In the future, we may form or seek other strategic alliances, joint ventures, or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to product candidates we develop.

Collaborations involving our current and future product candidates, including our current collaborations with Sanofi, Roche and Amgen may pose the following risks to us:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial, abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates;
- a collaborator with marketing, manufacturing and distribution rights to one or more products may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- collaborators may not properly prosecute, maintain, enforce or defend our intellectual property rights or may use our proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation, or other intellectual property proceedings;
- collaborators may own or co-own intellectual property covering products that result from our collaboration with them, and in such cases, we may not have the exclusive right to develop, license or commercialize such intellectual property;
- disputes may arise with respect to ownership of any intellectual property developed pursuant to our collaborations;
- disputes may arise between a collaborator and us that cause the delay or termination of the research, development or commercialization of the product candidate, or that result in costly litigation or arbitration that diverts management attention and resources; and
- if a present or future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished or terminated.

As a result, if we enter into additional collaboration agreements and strategic partnerships or license our intellectual property, products or businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Any delays in entering into new collaborations or strategic partnership agreements related to any product candidate we develop could delay the development and commercialization of our product candidates, which would harm our business prospects, financial condition, and results of operations.

We may seek to establish additional collaborations, and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.

The advancement of our product candidates and development programs and the potential commercialization of our current and future product candidates will require substantial additional cash to fund expenses. For some of our programs, we may decide to collaborate with additional pharmaceutical and biotechnology companies with respect to development and potential commercialization. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business.

We face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Whether we reach a definitive agreement for other collaborations will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the progress of our clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. Further, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for future product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view them as having the requisite potential to demonstrate safety and efficacy.

We may also be restricted under existing collaboration agreements from entering into future agreements on certain terms with potential collaborators. For example, under the Sanofi Agreement, we have granted worldwide exclusive rights under our intellectual property to Sanofi for SHP2 inhibitors, and during the term of the agreement we will be restricted from granting similar rights to other parties. This exclusivity could limit our ability to enter into collaborations with future collaborators.

In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

If conflicts arise between us and our collaborators or strategic partners, these parties may act in a manner adverse to us and could limit our ability to implement our strategies.

If conflicts arise between our corporate or academic collaborators or strategic partners and us, the other party may act in a manner adverse to us and could limit our ability to implement our strategies. Sanofi or future collaborators or strategic partners may develop, either alone or with others, products in related fields that are competitive with the products or potential products that are the subject of these collaborations. Competing products, either developed by the collaborators or strategic partners or to which the collaborators or strategic partners have rights, may result in the withdrawal of partner support for our product candidates. Our current or future collaborators or strategic partners may preclude us from entering into collaborations with their competitors, fail to obtain timely regulatory approvals, terminate their agreements with us prematurely, or fail to devote sufficient resources to the development and commercialization of products. Any of these developments could harm our product development efforts.

We rely on third parties to conduct our ongoing and planned clinical trials for RMC-4630 and any other product candidates we develop. If these third parties do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines, we may not be able to obtain marketing approval for or commercialize RMC-4630 and any other product candidates we develop and our business could be substantially harmed.

We do not have the ability to independently conduct clinical trials. We rely on medical institutions, clinical investigators, contract laboratories, and other third parties, including collaboration partners, to conduct or otherwise support clinical trials for RMC-4630 and other product candidates. We rely heavily on these parties for execution of clinical trials and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on CROs will not relieve us of our regulatory responsibilities. For any violations of laws and regulations during the conduct of our clinical trials, we could be subject to untitled and warning letters or enforcement action that may include civil penalties up to and including criminal prosecution.

We and third parties are required to comply with regulations and requirements, including GCP, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials and their rights are protected. These regulations are enforced by the FDA, the Competent Authorities of the Member States of the EEA and comparable foreign regulatory authorities for any drugs in clinical development. The FDA enforces GCP requirements through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or third parties fail to comply with applicable GCP, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, the FDA will determine that any of our future clinical trials will comply with GCP. In addition, our clinical trials must be conducted with product candidates produced under cGMP regulations. Our failure or the failure of third parties to comply with these regulations may require us to repeat clinical trials, which would delay the marketing approval process and could also subject us to enforcement action. We also are required to register certain ongoing clinical trials and provide certain information, including information relating to the trial's protocol, on a government-sponsored database, ClinicalTrials.gov, within specific timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Although we intend to design the clinical trials for our product candidates, or be involved in the design when other parties sponsor the trials, third parties conduct all of the clinical trials. For example, Amgen will conduct the planned Phase 1b trial evaluating the combination of RMC-4630 and AMG 510. As a result, many important aspects of our clinical development, including their conduct and timing, will be outside of our direct control. Our reliance on third parties to conduct future clinical trials will also result in less direct control over the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. If the CROs do not perform clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development, marketing approval and commercialization of our product candidates may be delayed, we may not be able to obtain marketing approval and commercialize our product candidates, or our development program may be materially and irreversibly harmed. If we are unable to rely on clinical data collected by our CROs, we could be required to repeat, extend the duration of, or increase the size of any clinical trials we conduct and this could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs on commercially reasonable terms, or at all. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain are compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, any clinical trials such CROs are associated with may be extended, delayed or terminated, and we may not be able to obtain marketing approval for or successfully commercialize our product candidates. As a result, we believe that our financial results and the commercial prospects for our product candidates in the subject indication would be harmed, our costs could increase and our ability to generate revenue could be delayed.

All of our clinical trial sites for our RMC-4630 clinical studies are located in the U.S., and may be affected by the COVID-19 outbreak due to prioritization of hospital resources toward the COVID-19 outbreak, travel or quarantine restrictions imposed by federal, state or local governments, and the inability to access sites for initiation and patient monitoring and enrollment. As a result, patient screening, new patient enrollment, monitoring and data collection may be affected or delayed. We are aware of several clinical sites involved in our RMC-4630 clinical studies that have temporarily stopped or delayed enrolling new patients, with exemptions if appropriate. These developments may delay our clinical trial timelines.

We rely on third parties to manufacture preclinical and clinical drug supplies, and we intend to rely on third parties to produce commercial supplies of any approved product which increases the risk that we will not have sufficient quantities of such product candidates or products or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not own or operate manufacturing facilities for the production of preclinical, clinical or commercial supplies of the product candidates that we are developing or evaluating in our development programs. We have limited personnel with experience in drug manufacturing and lack the resources and the capabilities to manufacture any of our product candidates on a preclinical, clinical or commercial scale. We rely on third parties for supply of our preclinical and clinical drug supplies (including key starting and intermediate materials), and our strategy is to outsource all manufacturing of our product candidates and products to third parties, including Sanofi.

In order to conduct clinical trials of product candidates, we will need to have them manufactured in potentially large quantities. Our third-party manufacturers may be unable to successfully increase the manufacturing capacity for any of our clinical drug supplies (including key starting and intermediate materials) in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities and at any other time. For example, ongoing data on the stability of our product candidates may shorten the expiry of our product candidates and lead to clinical trial material supply shortages, and potentially clinical trial delays. If these third-party manufacturers are unable to successfully scale up the manufacture of our product candidates in sufficient quality and quantity, the development, testing and clinical trials of that product candidate may be delayed or infeasible, and regulatory approval or commercial launch of that product candidate may be delayed or not obtained, which could significantly harm our business.

Our use of new third-party manufacturers increases the risk of delays in production or insufficient supplies of our product candidates (and the key starting and intermediate materials for such product candidates) as we transfer our manufacturing technology to these manufacturers and as they gain experience manufacturing our product candidates (and the key starting and intermediate materials for such product candidates).

Even after a third-party manufacturer has gained significant experience in manufacturing our product candidates (or the key starting and intermediate materials for such product candidates) or even if we believe we have succeeded in optimizing the manufacturing process, there can be no assurance that such manufacturer will produce sufficient quantities of our product candidates (or the key starting and intermediate materials for such product candidates) in a timely manner or continuously over time, or at all.

We may be delayed if we need to change the manufacturing process used by a third party. Further, if we change an approved manufacturing process, then we may be delayed if the FDA or a comparable foreign authority needs to review the new manufacturing process before it may be used.

We do not currently have any agreements with third-party manufacturers for long-term commercial supply. In the future, we may be unable to enter into agreements with third-party manufacturers for commercial supplies of any product candidate that we develop, or may be unable to do so on acceptable terms. Even if we are able to establish and maintain arrangements with third-party manufacturers, reliance on third-party manufacturers entails risks, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or non-renewal of the agreement by the third party at a time that is costly or inconvenient for us.

Third-party manufacturers may not be able to comply with cGMP requirements or similar regulatory requirements outside the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable requirements could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and/or criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates.

Our future product candidates and any products that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP requirements particularly for the development of monoclonal antibodies, and that might be capable of manufacturing for us.

If the third parties that we engage to supply any materials or manufacture product for our preclinical tests and clinical trials should cease to continue to do so for any reason, we likely would experience delays in advancing these tests and trials while we identify and qualify replacement suppliers or manufacturers and we may be unable to obtain replacement supplies on terms that are

favorable to us. In addition, if we are not able to obtain adequate supplies of our product candidates or the substances used to manufacture them, it will be more difficult for us to develop our product candidates and compete effectively.

Some of our third-party manufacturers which we use for the supply of materials for product candidates or other materials necessary to manufacture product to conduct clinical trials are located in countries affected by COVID-19, and should they experience disruptions, such as temporary closures or suspension of services, we would likely experience delays in advancing these trials. Currently, we expect no material impact on the clinical supply of RMC-4630.

Our current and anticipated future dependence upon others for the manufacture of our product candidates (or the key starting and intermediate materials for such product candidates) may adversely affect our future profit margins and our ability to develop product candidates and commercialize any products that receive marketing approval on a timely and competitive basis.

Our future relationships with customers and third-party payors in the United States and elsewhere may be subject, directly or indirectly, to applicable anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, or FCA, which may constrain the business or financial arrangements and relationships through which we sell, market and distribute any products for which we obtain marketing approval. In addition, we may be subject to transparency laws and patient privacy regulation by the U.S. federal and state governments and by governments in foreign jurisdictions in which we conduct our business. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under the Medicare and Medicaid programs or other federal healthcare programs. A person or entity can be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate it. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers, and formulary managers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution;
- the federal civil and criminal false claims laws and civil monetary penalty laws, including the FCA, which prohibit any person or entity from, among other things, knowingly presenting, or causing to be presented, a false, fictitious or fraudulent claim for payment to, or approval by, the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity can be found guilty of violating HIPAA without actual knowledge of the statutes or specific intent to violate them;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose, among other things, specified requirements relating to the privacy, security and transmission of individually identifiable health information held by covered entities and their business associates. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions;

- the Physician Payments Sunshine Act, created under the ACA, and its implementing regulations, which requires manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to CMS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- analogous state laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and healthcare and data protection laws in the European Union and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of certain protected information, such as the General Data Protection Regulation, or GDPR, which imposes obligations and restrictions on the collection and use of personal data relating to individuals located in the European Economic Area, or the EEA, and the United Kingdom (including health data).

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available under such laws, it is possible that some of our business activities could be subject to challenge under one or more of such laws. The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring that our business arrangements with third parties comply with applicable healthcare laws, as well as responding to investigations by government authorities, can be time- and resource-consuming and can divert management's attention from the business.

If our operations are found to be in violation of any of the laws described above or any other government regulations that apply to us, we may be subject to penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in federal and state funded healthcare programs, contractual damages and the curtailment or restricting of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, any of which could harm our ability to operate our business and our financial results. Further, if the physicians or other providers or entities with whom we expect to do business are found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. In addition, the approval and commercialization of any product candidate we develop outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

Risks related to intellectual property

If we and our collaborators are unable to obtain and maintain sufficient patent and other intellectual property protection for our product candidates and technology, our competitors could develop and commercialize products and technology similar or identical to ours, and we may not be able to compete effectively in our market or successfully commercialize any product candidates we may develop.

Our success depends in significant part on our ability and the ability of our collaborators to obtain, maintain, enforce and defend patents and other intellectual property rights with respect to our product candidates and technology and to operate our business without infringing, misappropriating, or otherwise violating the intellectual property rights of others. If we and our collaborators are unable to obtain and maintain sufficient intellectual property protection for RMC-4630 or other product candidates that we may identify, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors and other third parties could develop and commercialize product candidates similar or identical to ours, and our ability (and the ability of our collaborators) to successfully commercialize RMC-4630 and other product candidates that we (and our collaborators) may pursue may be impaired. We do not have any issued patents with respect to our SHP2 program, including RMC-4630, and we can provide no assurance that any of our current or future patent applications will result in issued patents or that any issued patents will provide us with any competitive advantage. Failure to obtain such issued patents could have a material adverse effect on our and Sanofi's ability to develop and commercialize SHP2 inhibitor products, including RMC-4630, and on our ability to receive milestone, royalty or other payments from Sanofi pursuant to the Sanofi Agreement.

We seek to protect our proprietary positions by, among other things, filing patent applications in the United States and abroad related to RMC-4630 or other product candidates that we may identify. Obtaining, maintaining, defending and enforcing pharmaceutical patents is costly, time consuming and complex, and we may not be able to file and prosecute all necessary or desirable patent applications, or maintain, enforce and license any patents that may issue from such patent applications, at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. We may not have the right to control the preparation, filing, prosecution and maintenance of patent applications, or to maintain the rights to patents licensed to or from third parties.

Although we enter into confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, collaborators, CROs, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. Further, we may not be aware of all third-party intellectual property rights potentially relating to our product candidates. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing or, in some cases, not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

The patent position of pharmaceutical companies generally is highly uncertain, involves complex legal, technological and factual questions and has, in recent years, been the subject of much debate and litigation throughout the world. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States, or vice versa. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. The subject matter claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Therefore, our pending and future patent applications may not result in patents being issued in relevant jurisdictions that protect our product candidates, in whole or in part, or which effectively prevent others from commercializing competitive product candidates, and even if our patent applications issue as patents in relevant jurisdictions, they may not issue in a form that will provide us with any meaningful protection for our product candidates or technology, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Additionally, our competitors may be able to circumvent our patents by developing similar or alternative product candidates or technologies in a non-infringing manner.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. We may be subject to a third-party preissuance submission of prior art to the United States Patent and Trademark Office, or the USPTO, or become involved in opposition, derivation, revocation, reexamination, *inter partes* review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others, or other proceedings in the USPTO or applicable foreign offices that challenge priority of invention or other features of patentability. An adverse determination in any such submission, proceeding or litigation could result in loss of exclusivity or freedom to operate, patent claims being narrowed, invalidated or held unenforceable, in whole or in part, limit the scope or duration of the patent protection of our product candidates, all of which could limit our ability to stop others from using or commercializing similar or identical product candidates or technology to compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates, or could have a material adverse effect on our ability to raise funds necessary to continue our research programs or clinical trials. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us.

In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing products or technology similar or identical to ours for a meaningful amount of time, or at all. Moreover, some of our owned or licensed patents and patent applications are, and may in the future be, co-owned with third parties. If we are unable to obtain exclusive licenses to any such co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we may need the cooperation of any such co-owners in order to enforce such patents against third parties, and such cooperation may not be provided to us. Any of the foregoing could harm our competitive position, business, financial condition, results of operations and prospects.

We have entered into licensing agreements with third parties. If we fail to comply with our obligations in the agreements under which we license intellectual property rights to or from third parties, or these agreements are terminated, or we otherwise experience disruptions to our business relationships with our licensors or licensees, our competitive position, business, financial condition, results of operations and prospects could be harmed.

In addition to patent and other intellectual property rights we own or co-own, we have licensed, and may in the future license, patent and other intellectual property rights to and from other parties. Licenses may not provide us with exclusive rights to use the applicable intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our products and technology in the future. As a result, we may not be able to prevent competitors from developing and commercializing competitive products or technologies.

In addition, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications or to maintain, defend and enforce the patents that we license to or from third parties, and we may have to rely on our partners to fulfill these responsibilities. For example, in June 2018, we entered into the Sanofi Agreement, wherein we exclusively licensed the worldwide rights in our SHP2 inhibitor program, including RMC-4630, to Sanofi. Although we have review and comment rights regarding patent prosecution decisions, Sanofi retains ultimate decision-making control, as well as the sole and exclusive right to enforce infringement of or defend claims against patents that relate to SHP2 inhibitor products licensed to it pursuant to the Sanofi Agreement. Consequently, any such licensed patents and applications may not be prepared, filed, prosecuted, maintained, enforced, and defended in a manner consistent with the best interests of our business. If our current or future licensors, licensees or collaborators fail to prepare, file, prosecute, maintain, enforce, and defend licensed patents and other intellectual property rights, such rights may be reduced or eliminated, and our right to develop and commercialize any of our product candidates or technology that are the subject of such licensed rights could be adversely affected. In addition, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor's rights.

If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties, the licensor may have the right to terminate the license. If these agreements are terminated, the underlying patents fail to provide the intended exclusivity or we otherwise experience disruptions to our business relationships with our licensors, we could lose intellectual property rights that are important to our business or be prevented from developing and commercializing our product candidates, and competitors could have the freedom to seek regulatory approval of, and to market, products identical to ours. Termination of these agreements or reduction or elimination of our rights under these agreements may also result in our having to negotiate new or reinstated agreements with less favorable terms, cause us to lose our rights under these agreements, including our rights to important intellectual property or technology, or impede, delay or prohibit the further development or commercialization of one or more product candidates that rely on such agreements. It is possible that we may be unable to obtain any additional licenses at a reasonable cost or on reasonable terms, if at all. In that event, we may be required to expend significant time and resources to redesign our product candidates or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis.

In addition, the research resulting in certain of our owned and in-licensed patent rights and technology was funded in part by the U.S. federal or state governments. As a result, the government may have certain rights, including march-in rights, to such patent rights and technology. When new technologies are developed with government funding, the government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention for noncommercial purposes. These rights may permit the government to disclose our confidential information to third parties or allow third parties to use our licensed technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. Any of the foregoing could harm our competitive position, business, financial condition, results of operations and prospects.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues and certain provisions in intellectual property license agreements may be susceptible to multiple interpretations. Disputes may arise between us and our licensing partners regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which technology and processes of one party infringe on intellectual property of the other party that are not subject to the licensing agreement;
- rights to sublicense patent and other rights to third parties;
- any diligence obligations with respect to the use of the licensed technology in relation to development and commercialization of our product candidates, and what activities satisfy those diligence obligations;

- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property;
- rights to transfer or assign the license; and
- the effects of termination.

The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could harm our business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

In addition, if our licensors fail to abide by the terms of the license, if the licensors fail to prevent infringement by third parties or if the licensed patents or other rights are found to be invalid or unenforceable, our business, competitive position, financial condition, results of operations and prospects could be materially harmed. For more information regarding our license agreements, see “Business—Collaboration agreement with Sanofi.” Any of the foregoing could harm our competitive position, business, financial condition, results of operations and prospects.

If we are unable to obtain licenses from third parties on commercially reasonable terms or at all, our business could be harmed.

It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our products, in which case we would be required to obtain a license from these third parties. The licensing of third-party intellectual property rights is a competitive area, and more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. More established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. If we are unable to license such technology, or if we are forced to license such technology on unfavorable terms, our business could be materially harmed. If we are unable to obtain a necessary license, we may be unable to develop or commercialize the affected product candidates, which could materially harm our business, and the third parties owning such intellectual property rights could seek either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties or other forms of compensation. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. Any of the foregoing could harm our competitive position, business, financial condition, results of operations and prospects.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent, which might subject us to infringement claims or adversely affect our ability to develop and market our product candidates.

We cannot guarantee that any of our or our licensors' patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending patent application in the United States and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction. For example, U.S. patent applications filed before November 29, 2000 and certain U.S. patent applications filed after that date that will not be filed outside the United States remain confidential until patents issue. As mentioned above, patent applications in the United States and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our product candidates could have been filed by third parties without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. We may incorrectly determine that our product candidates are not covered by a third-party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our product candidates.

If we fail to identify and correctly interpret relevant patents, we may be subject to infringement claims. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay damages, which may be significant, we may be temporarily or permanently prohibited from commercializing any of our product candidates that are held to be infringing. We might, if possible, also be forced to redesign product candidates so that we no longer infringe the third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business and could adversely affect our business, financial condition, results of operations and prospects.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired for a product candidate, we may be open to competition from competitive medications, including generic medications. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such product candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing product candidates similar or identical to ours for a meaningful amount of time, or at all.

Depending upon the timing, duration and conditions of any FDA marketing approval of our product candidates, one or more of our owned or licensed U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments, and similar legislation in the European Union and certain other countries. The Hatch-Waxman Amendments permit a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. However, we may not receive an extension if we fail to exercise due diligence during the testing phase or regulatory review process, fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. Only one patent per approved product can be extended, the extension cannot extend the total patent term beyond 14 years from approval and only those claims covering the approved drug, a method for using it or a method for manufacturing it may be extended. If we are unable to obtain patent term extension or the term of any such extension is less than we request, the period during which we can enforce our patent rights for the applicable product candidate will be shortened and our competitors may obtain approval to market competing products sooner. As a result, our revenue from applicable products could be reduced. Further, if this occurs, our competitors may take advantage of our investment in development and trials by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case, and our competitive position, business, financial condition, results of operations and prospects could be materially harmed.

Also, there are detailed rules and requirements regarding the patents that may be submitted to the FDA for listing in the Approved Drug Products with Therapeutic Equivalence Evaluations, or the Orange Book. We may be unable to obtain patents covering our product candidates that contain one or more claims that satisfy the requirements for listing in the Orange Book. Even if we submit a patent for listing in the Orange Book, the FDA may decline to list the patent, or a manufacturer of generic drugs may challenge the listing. If one of our product candidates is approved and a patent covering that product candidate is not listed in the Orange Book, a manufacturer of generic drugs would not have to provide advance notice to us of any abbreviated new drug application filed with the FDA to obtain permission to sell a generic version of such product candidate. Any of the foregoing could harm our competitive position, business, financial condition, results of operations and prospects.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, maintaining, defending and enforcing patents on our product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and may export otherwise infringing products to territories where we have patent protection, but enforcement rights are not as strong as those in the United States. These products may compete with our product candidates and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of some countries do not favor the enforcement or protection of patents, trade secrets and other intellectual property, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful.

Many foreign countries, including some European Union countries, India, Japan and China, have compulsory licensing laws under which a patent owner may be compelled under specified circumstances to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In those countries, we may have limited remedies if patents are infringed or if we are compelled to grant a license to a third party, which could materially diminish the value of the applicable patents. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license, which could adversely affect our business, financial condition, results of operations and prospects.

Changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

Obtaining and enforcing patents in the pharmaceutical industry is inherently uncertain, due in part to ongoing changes in the patent laws. For example, in the United States, depending on decisions by Congress, the federal courts, and the USPTO, the laws and regulations governing patents, and interpretation thereof, could change in unpredictable ways that could weaken our and our licensors' or collaborators' ability to obtain new patents or to enforce existing or future patents. For example, the U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. Therefore, there is increased uncertainty with regard to our and our licensors' or collaborators' ability to obtain patents in the future, as well as uncertainty with respect to the value of patents once obtained.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our and our licensors' or collaborators' patent applications and the enforcement or defense of our or our licensors' or collaborators' issued patents. For example, assuming that other requirements for patentability are met, prior to March 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith America Invents Act, or the Leahy-Smith Act, enacted in September 2011, the United States transitioned to a first inventor to file system in which, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. The Leahy-Smith Act also includes a number of significant changes that affect the way patent applications are prosecuted and may also affect patent litigation. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to challenge the validity of a patent by USPTO-administered post-grant proceedings, including post-grant review, *inter partes* review and derivation proceedings. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, particularly the first inventor-to-file provisions. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our licensors' patent applications and the enforcement or defense of our or our licensors' issued patents. Similarly, statutory or judicial changes to the patent laws of other countries may increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. All of the foregoing could harm our business, financial condition, results of operations and prospects.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated if we fail to comply with these requirements.

Periodic maintenance fees, renewal fees, annuity fees, and various other fees are required to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of a patent. In certain circumstances, we rely on our licensors and collaborators to pay these fees. The USPTO and various foreign patent agencies also require compliance with a number of procedural, documentary, fee payment and other similar requirements during the patent application and prosecution process. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official communications within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. While an inadvertent lapse can in some cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance can result in irrevocable abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If we or our licensors or collaborators fail to maintain the patents and patent applications covering our product candidates, our competitors might be able to enter the market with similar or identical products or technology, which would harm our business, financial condition, results of operations and prospects.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time-consuming and unsuccessful, and issued patents covering our technology and product candidates could be found invalid or unenforceable if challenged.

Competitors and other third parties may infringe or otherwise violate our issued patents or other intellectual property or the patents or other intellectual property of our licensors. In addition, our patents or the patents of our licensors may become involved in inventorship or priority disputes. Our pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. To counter infringement or other unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. Our ability to enforce patent rights also depends on our ability to detect infringement. It may be difficult to detect infringers who do not advertise the components or methods that are used in connection with their products and services. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product or service. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents or that our patents are invalid or unenforceable. In a patent infringement proceeding, a court may decide that a patent of ours is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology. An adverse result in any litigation proceeding could put one or more of our owned or licensed patents at risk of being invalidated, held unenforceable or interpreted narrowly. We may find it impractical or undesirable to enforce our intellectual property against some third parties.

If we were to initiate legal proceedings against a third party to enforce a patent directed to our product candidates, or one of our future product candidates, the defendant could counterclaim that our patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non-enablement or insufficient written description. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. Third parties may also raise similar claims before the USPTO or an equivalent foreign body, even outside the context of litigation. Potential proceedings include re-examination, post-grant review, inter partes review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in the revocation, cancellation of, or amendment to our patents in such a way that they no longer cover our technology or any product candidates that we may develop. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on the applicable product candidates or technology covered by the patent rendered invalid or unenforceable. Such a loss of patent protection would materially harm our business, financial condition, results of operations and prospects.

Interference proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be materially harmed if the prevailing party does not offer us a license on commercially reasonable terms.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Some of our competitors are larger than we are and have substantially greater resources. They are, therefore, likely to be able to sustain the costs of complex patent litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon, misappropriating or otherwise violating our intellectual property. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims could result in substantial costs and diversion of management resources, which could harm our business. In addition, the uncertainties associated with litigation could compromise our ability to raise the funds necessary to continue our clinical trials, continue our internal research programs, or in-license needed technology or other product candidates. There could also be public announcements of the results of the hearing, motions, or other interim proceedings or developments. If securities analysts or investors perceive those results to be negative, it could cause the price of shares of our common stock to decline. Any of the foregoing events could harm our business, financial condition, results of operation and prospects.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could negatively impact the success of our business.

Our commercial success depends upon our ability to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing, misappropriating or otherwise violating the intellectual property and other proprietary rights of third parties. There is considerable intellectual property litigation in the pharmaceutical industry. We may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our product candidates and their manufacture and our other technology, including re-examination, interference, post-grant review, inter partes review or derivation proceedings before the USPTO or an equivalent foreign body. Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing our product candidates. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit.

Even if we believe third-party intellectual property claims are without merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability or priority. A court of competent jurisdiction could hold that third-party patents asserted against us are valid, enforceable and infringed, which could materially and adversely affect our ability to commercialize any product candidates we may develop and any other product candidates or technologies covered by the asserted third-party patents. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe, misappropriate or otherwise violate a third party's intellectual property rights, and we are unsuccessful in demonstrating that such rights are invalid or unenforceable, we could be required to obtain a license from such a third party in order to continue developing and marketing our products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties and other fees, redesign our infringing product candidate or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. Any of the foregoing events would harm our business, financial condition, results of operations and prospects.

We may be subject to claims by third parties asserting that we or our employees have infringed upon, misappropriated or otherwise violated their intellectual property rights, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at other biotechnology or pharmaceutical companies. Although we try to ensure that our employees, consultants and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's former employer. We may also be subject to claims that patents and applications we have filed to protect inventions of our employees, consultants and advisors, even those related to one or more of our product candidates, are rightfully owned by their former or concurrent employer. Litigation may be necessary to defend against these claims.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs, delay development of our product candidates and be a distraction to management. Any of the foregoing events would harm our business, financial condition, results of operations and prospects.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

We or our licensors may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patents, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we or our licensors may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our product candidates. While it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. Our and their assignment agreements may not be self-executing or may be breached, and litigation may be necessary to defend against these and other claims challenging inventorship or our or our licensors' ownership of our owned or in-licensed patents, trade secrets or other intellectual property. If we or our licensors fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our

product candidates. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. As noted above, some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace, including compromising our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties, or enter into development collaborations that would help us commercialize our product candidates, if approved. Any of the foregoing events would harm our business, financial condition, results of operations and prospects.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

We rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology and other proprietary information (including unpatented know-how associated with Warp Drive) and to maintain our competitive position. Trade secrets and know-how can be difficult to protect. We seek to protect these trade secrets and other proprietary technology, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, collaborators, CROs, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. We cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology and processes. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Unauthorized parties may also attempt to copy or reverse engineer certain aspects of our products that we consider proprietary. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary information will be effective.

We also seek to preserve the integrity and confidentiality of our confidential proprietary information by maintaining physical security of our premises and physical and electronic security of our information technology systems, but it is possible that these security measures could be breached. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position would be materially and adversely harmed.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential collaborators or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. We may license our trademarks and trade names to third parties, such as distributors. Though these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names. Our efforts to enforce or protect our proprietary rights related to trademarks, trade names, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our business, financial condition, results of operations and prospects.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make products that are similar to any product candidates we may develop or utilize similar technology but that are not covered by the claims of the patents that we license or may own in the future;
- we, or our current or future licensors might not have been the first to make the inventions covered by the issued patent or pending patent application that we license or may own in the future;
- we, or our current or future licensors might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights;
- it is possible that our pending owned or licensed patent applications or those that we may own or license in the future will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could harm our business, financial condition, results of operations and prospects.

Risks related to employee matters, managing our growth and other risks related to our business

We are highly dependent on our key personnel, and if we are not successful in attracting, motivating and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

We are highly dependent on members of our executive team. The loss of the services of any of them may adversely impact the achievement of our objectives. Any of our executive officers could leave our employment at any time, as all of our employees are “at-will” employees. We currently do not have “key person” insurance on any of our employees. The loss of the services of one or more of our key personnel might impede the achievement of our research, development and commercialization objectives.

Recruiting and retaining qualified employees, consultants and advisors for our business, including scientific and technical personnel, also will be critical to our success. Competition for skilled personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies and academic institutions for skilled individuals. In addition, failure to succeed in preclinical studies, clinical trials or applications for marketing approval may make it more challenging to recruit and retain qualified personnel. The inability to recruit, or the loss of services of certain executives, key employees, consultants or advisors, may impede the progress of our research, development and commercialization objectives and have a material adverse effect on our business, financial condition, results of operations and prospects.

We currently have no sales organization. If we are unable to establish sales capabilities on our own or through third parties, we may not be able to market and sell any products effectively, if approved, or generate product revenue.

We currently do not have a marketing or sales organization. In order to commercialize any product, if approved, in the United States and foreign jurisdictions, we must build our marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. In advance of any of our product candidates receiving regulatory approval, we expect to establish a sales organization with technical expertise and supporting distribution capabilities to commercialize each such product candidate, which will be expensive and time-consuming. We have no prior experience in the marketing, sale and distribution of pharmaceutical products, and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain, and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. We may choose to collaborate with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. If we are unable to enter into such arrangements on acceptable terms or at all, we may not be able to successfully commercialize our product candidates. If we are not successful in commercializing products, either on our own or through arrangements with one or more third parties, we may not be able to generate any future product revenue and we would incur significant additional losses.

We will need to grow the size of our organization, and we may experience difficulties in managing this growth.

As of December 31, 2019, we had 95 full-time employees, including 79 employees engaged in research and development. As our development and commercialization plans and strategies develop, and as we transition into operating as a public company, we expect to need additional managerial, operational, sales, marketing, financial and other personnel. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for RMC-4630 and any other product candidate we develop, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to advance development of and, if approved, commercialize RMC-4630 and any other product candidate we develop will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services, including substantially all aspects of marketing approval, clinical management, and manufacturing. We cannot assure you that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain marketing approval of any current or future product candidates or otherwise advance our business. We cannot assure you that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize RMC-4630 and any future product candidates we develop and, accordingly, may not achieve our research, development and commercialization goals.

We have in the past engaged and may in the future engage in strategic transactions; such transactions could affect our liquidity, dilute our existing stockholders, increase our expenses and present significant challenges in focus and energy to our management or prove not to be successful.

From time to time, we may consider strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of intellectual property, products or technologies. For example, in October 2018, we acquired all of the outstanding shares of Warp Drive Bio, which became our direct wholly-owned subsidiary. See “Business—Acquisition of Warp Drive.”

Additional potential transactions that we may consider in the future include a variety of business arrangements, including spin-offs, strategic partnerships, joint ventures, restructurings, divestitures, business combinations and investments. Any future transactions could result in potentially dilutive issuances of our equity securities, including our common stock, or the incurrence of debt, contingent liabilities, amortization expenses or acquired in-process research and development expenses, any of which could affect our financial condition, liquidity and results of operations. Future acquisitions may also require us to obtain additional financing, which may not be available on favorable terms or at all. These transactions may never be successful and may require significant time and attention of management. In addition, the integration of any business that we may acquire in the future may disrupt our existing business and may be a complex, risky and costly endeavor for which we may never realize the full benefits of the acquisition.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

We or the third parties upon whom we depend may be adversely affected by earthquakes, outbreak of disease, or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our corporate headquarters and other facilities are located in the San Francisco Bay Area, which in the past has experienced both severe earthquakes and wildfires. We do not carry earthquake insurance. Earthquakes, wildfires or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects.

If a natural disaster, power outage, outbreak of disease, or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our enterprise financial systems or manufacturing resource planning and enterprise quality systems, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Furthermore, integral parties used in our preclinical activities and in our supply chain are similarly vulnerable to natural disasters, outbreak of disease, or other sudden, unforeseen and severe adverse events. If such an event were to affect our preclinical activities or our supply chain, it could have a material adverse effect on our business.

Epidemic and pandemic diseases, such as COVID-19, or the perception of their effects, could have a material adverse effect on our business, financial condition, results of operations or cash flows.

Outbreaks of epidemic, pandemic or contagious diseases, such as the recent SAR-CoV-2 virus, or, historically, the Ebola virus, Middle East Respiratory Syndrome, Severe Acute Respiratory Syndrome or the H1N1 virus, could significantly disrupt our business. Such outbreaks pose the risk that we or our employees, contractors, suppliers, and other partners may be prevented from conducting business activities for an indefinite period of time due to spread of the disease within these groups, or due to shutdowns that may be requested or mandated by federal, state and local governmental authorities. Business disruptions could include disruptions or restrictions on our ability to travel, as well as temporary closures of our facilities and the facilities of our partners, clinical trial sites, service providers, suppliers or contract manufacturers. While it is not possible at this time to estimate the overall impact that COVID-19 could have on our business, the continued rapid spread of COVID-19, both across the United States and through much of the world, and the measures taken by the governments of countries and local authorities affected could disrupt and delay our ongoing clinical trials, our preclinical activities, the manufacture or shipment of both drug substance and finished drug product for our product candidates for preclinical testing and clinical trials and adversely impact our business, financial condition or results of operations.

For example, the state of California, where our corporate offices are located, has issued orders for all residents to remain at home, except as needed for essential activities as a result of COVID-19 and we have had to implement work from home policies that may continue for an indefinite period. We have taken steps to ensure the safety of our patients and employees, while working to ensure the sustainability of our business operations as this unprecedented situation continues to evolve. We continue to evaluate the impact of COVID-19 on the healthcare system and work with healthcare providers supporting our clinical studies to mitigate risk to patients while taking into account regulatory, institutional, and government guidance and policies. All of our clinical trial sites for our RMC-4630 clinical studies are located in the U.S., and may be affected by the COVID-19 outbreak due to prioritization of hospital resources toward the COVID-19 outbreak, travel or quarantine restrictions imposed by federal, state or local governments, and the inability to access sites for initiation and patient monitoring and enrollment. As a result, patient screening, new patient enrollment, monitoring and data collection may be affected or delayed. We are aware of several clinical sites involved in our RMC-4630 clinical studies that have temporarily stopped or delayed enrolling new patients, with exemptions if appropriate. These developments may delay our clinical trial timelines. Some of our third-party manufacturers which we use for the supply of materials for product candidates or other materials necessary to manufacture product to conduct preclinical tests and clinical trials are located in countries affected by COVID-19, and should they experience disruptions, such as temporary closures or suspension of services, we would likely experience delays in advancing these tests and trials. Currently, we expect no material impact on the clinical supply of RMC-4630. Furthermore, the spread of the virus may affect the operations of key governmental agencies, such as the FDA, which may delay the development of our product candidates. The spread of an infectious disease, including COVID-19, may also result in the inability of our suppliers to deliver components or raw materials on a timely basis or at all. Such events may result in a period of business disruption, and in reduced operations, or doctors and medical providers may be unwilling to participate in our clinical trials, any of which could materially affect our business, financial condition and results of operations.

In addition, a significant outbreak of epidemic, pandemic or contagious diseases in the human population, such as the global COVID-19 pandemic, could result in a widespread health crisis and adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could affect demand for our current or future products. Any of these events could have a material adverse effect on our business, financial condition, results of operations or cash flows.

Our internal computer systems, or those used by our CROs or other contractors or consultants, may fail or suffer security breaches.

Despite the implementation of security measures, our internal computer systems and those of our future CROs and other contractors and consultants are vulnerable to damage from computer viruses and unauthorized access. While we have not to our knowledge experienced any such material system failure or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our marketing approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on third parties for the manufacture of our product candidates and to conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development and commercialization of our future product candidates could be delayed.

Our employees, independent contractors, vendors, principal investigators, CROs and consultants may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk that our employees, independent contractors, vendors, principal investigators, CROs and consultants may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violate the regulations of the FDA and comparable foreign regulatory authorities, including those laws requiring the reporting of true, complete and accurate information to such authorities; healthcare fraud and abuse laws and regulations in the United States and abroad; or laws that require the reporting of financial information or data accurately. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials or creating fraudulent data in our preclinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal

healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Risks related to our common stock

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for investors.

Our stock price is likely to be volatile. The stock market in general and the market for biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

- the success of competitive products or technologies;
- results of clinical trials and preclinical studies or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to our product candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license product candidates or companion diagnostics;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors; and
- general economic, industry and market conditions.

An active trading market for our common stock may not be sustained.

Our common stock is currently listed on the Nasdaq Global Select Market under the symbol "RVMD". The price for our common stock may vary and an active or liquid market in our common stock may not be sustainable. The lack of an active market may impair the value of your shares, your ability to sell your shares at the time you wish to sell them and the prices that you may obtain for your shares. An inactive market may also impair our ability to raise capital by selling our common stock and our ability to acquire other companies, products or technologies by using our common stock as consideration.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We do not currently intend to pay any cash dividends on our common stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Therefore, you are not likely to receive any dividends on your common stock for the foreseeable future. Since we do not intend to pay dividends, your ability to receive a return on your investment will depend on any future appreciation in the market value of our common stock. There is no guarantee that our common stock will appreciate or even maintain the price at which our holders have purchased it.

We are an emerging growth company, and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements, that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in this report and our periodic reports and proxy statements and exemptions from the requirements of holding nonbinding advisory votes on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years following the year of our IPO, although circumstances could cause us to lose that status earlier. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of our IPO, (b) in which we have total annual gross revenue of at least \$1.07 billion or (c) in which we are deemed to be a large accelerated filer, which requires the market value of our common stock that is held by non-affiliates to exceed \$700.0 million as of the prior June 30th, and (2) the date on which we have issued more than

\$1.0 billion in non-convertible debt during the prior three-year period. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to use the extended transition period for any other new or revised accounting standards during the period in which we remain an emerging growth company; however, we may adopt certain new or revised accounting standards early. As a result, changes in rules of U.S. generally accepted accounting principles or their interpretation, the adoption of new guidance or the application of existing guidance to changes in our business could significantly affect our financial position and results of operations.

Our executive officers, directors and their affiliates have significant influence over our company, which will limit your ability to influence corporate matters and could delay or prevent a change in corporate control.

As of February 29, 2020, our executive officers, directors and their affiliates beneficially own, in the aggregate, approximately 43.1% of our outstanding common stock. As a result, these stockholders, if they act together, will be able to influence our management and affairs and the outcome of matters submitted to our stockholders for approval, including the election of directors and any sale, merger, consolidation or sale of all or substantially all of our assets. In addition, this concentration of ownership might adversely affect the market price of our common stock by:

- delaying, deferring or preventing a change of control of us;
- impeding a merger, consolidation, takeover or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

See "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" in this Annual Report on Form 10-K for more information regarding the ownership of our outstanding common stock by our executive officers, directors and their affiliates.

We incur significantly increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives.

As a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company. We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which requires, among other things, that we file with the SEC annual, quarterly and current reports with respect to our business and financial condition. In addition, the Sarbanes-Oxley Act, as well as rules subsequently adopted by the SEC and Nasdaq to implement provisions of the Sarbanes-Oxley Act, impose significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices. Further, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation-related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas such as "say on pay" and proxy access. Recent legislation permits emerging growth companies to implement many of these requirements over a longer period and up to five years from the pricing of their IPO. We intend to take advantage of this new legislation, but cannot guarantee that we will not be required to implement these requirements sooner than budgeted or planned and thereby incur unexpected expenses. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate.

We expect the rules and regulations applicable to public companies to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. If these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, financial condition, results of operations and prospects. The increased costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business or increase the prices of our products or services. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline.

As of February 29, 2020, we had outstanding 58,995,971 shares of common stock. The resale of 42,895,971 shares, or 73% of our outstanding shares of common stock is currently prohibited or otherwise restricted as a result of securities law provisions, market standoff agreements entered into by certain of our stockholders with us or lock-up agreements entered into by our stockholders with the underwriters in connection with our IPO. The lock-up agreements with the underwriters or market stand-off provisions in agreements with us will expire 180 days after February 12, 2020. J.P. Morgan Securities LLC may, in its sole discretion, permit our stockholders who are subject to these lock-up agreements to sell shares prior to the expiration of the lock-up agreements. After the lock-up agreements with the underwriters or market stand-off provisions in agreements with us expire, the shares of common stock will be eligible for sale in the public market. Approximately 54.9% of these additional shares are held by directors, executive officers and other affiliates and will be subject to certain limitations of Rule 144 under the Securities Act of 1933, as amended, or the Securities Act

As of February 29, 2020, 11,483,390 shares of common stock that are either subject to outstanding options or reserved for future issuance under our equity incentive plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements, market stand-off provisions in agreements with us and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline.

In addition, holders of approximately 39.6 million shares of our common stock are entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements described above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates. Any sales of securities by these stockholders could have a material adverse effect on the market price of our common stock.

Our ability to utilize our net operating loss carryforwards and certain other tax attributes has been limited by “ownership changes” and may be further limited.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, if a corporation undergoes an “ownership change” (generally defined as a greater than 50 percentage point change (by value) in its equity ownership over a rolling three-year period), the corporation’s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. We have in the past experienced, and we may in the future experience ownership changes as a result of our IPO or other changes in our stock ownership (some of which are not in our control). Use of our federal and state net operating loss carryforwards have been limited and could be further limited if we experience additional ownership changes, which could have an adverse effect on our future results of operations.

If we sell shares of our common stock in future financings, stockholders may experience immediate dilution and, as a result, our stock price may decline.

We may from time to time issue additional shares of common stock at a discount from the current trading price of our common stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. If we issue common stock or securities convertible into common stock, our common stockholders would experience additional dilution and, as a result, our stock price may decline.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

The trading market for our common stock will rely, in part, on the research and reports that industry or financial analysts publish about us or our business. We may never obtain research coverage by industry or financial analysts. If no or few analysts commence coverage of us, the trading price of our stock would likely decrease. Even if we do obtain analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which, in turn, could cause our stock price to decline.

If we fail to implement and maintain proper and effective internal control over financial reporting, our ability to produce accurate and timely financial statements could be impaired, investors may lose confidence in our financial reporting and the trading price of our common stock may decline.

Pursuant to Section 404 of Sarbanes-Oxley, our management will be required to report upon the effectiveness of our internal control over financial reporting beginning with the annual report for our fiscal year ending December 31, 2021. When we lose our status as an “emerging growth company,” our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation.

To comply with the requirements of being a reporting company under the Exchange Act, we will need to implement additional financial and management controls, reporting systems and procedures and hire additional accounting and finance staff.

We cannot assure you that there will not be material weaknesses in our internal control over financial reporting in the future. Any failure to implement and maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness in our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.

Our amended and restated certificate of incorporation and amended and restated bylaws contains provisions that could delay or prevent changes in control or changes in our management without the consent of our board of directors. These provisions will include the following:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;
- the ability of our board of directors to alter our amended and restated bylaws without obtaining stockholder approval;
- the required approval of at least 66 2/3% of the shares entitled to vote at an election of directors to adopt, amend or repeal our amended and restated bylaws or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by our chief executive officer or president or by the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders’ meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror’s own slate of directors or otherwise attempting to obtain control of us.

We are also subject to the anti-takeover provisions contained in Section 203 of the Delaware General Corporation Law. Under Section 203, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other exceptions, the board of directors has approved the transaction. For a description of our capital stock, see the section titled "Description of capital stock."

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws, which became in effect immediately prior to the completion of our IPO and our indemnification agreements that we have entered into with our directors and officers provide that:

- we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;
- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;
- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;
- we will not be obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification;
- the rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and
- we may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide for an exclusive forum in the Court of Chancery of the State of Delaware for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that the Court of Chancery of the State of Delaware is the exclusive forum for any state law derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, any action to interpret, apply, enforce, or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Nothing in our amended and restated certificate of incorporation or amended and restated bylaws will preclude stockholders that assert claims under the Securities Act or the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. If a court were to find the choice of forum provision that will be contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business, financial condition, results of operations and prospects.

Comprehensive tax reform legislation could adversely affect our business and financial condition.

On December 22, 2017, the U.S. government enacted the TCJA, which significantly reforms the Code. The TCJA, among other things, contains significant changes to corporate taxation, including reduction of the U.S. federal income corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, effective January 1, 2018; limitation of the tax deduction for interest expense; limitation of the deduction for net operating losses and elimination of net operating loss carrybacks, in each case, for losses arising in taxable years beginning after December 31, 2017 (though any such tax losses may be carried forward indefinitely); and modifying or repealing many business deductions and credits, including reducing the business tax credit for certain clinical testing expenses incurred in the testing of certain drugs for rare diseases or conditions generally referred to as "orphan drugs." We continue to examine the impact this tax reform legislation may have on our business. The U.S. Department of Treasury has broad authority to issue regulations and interpretative guidance that may significantly impact how we will apply the law and impact our results of operations in the period issued. As such, the application of accounting guidance for such items is currently uncertain. While we have completed our accounting for the effects of the TCJA, additional regulatory guidance may still be issued by the applicable taxing authorities which could materially affect our tax obligations and effective tax rate.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our corporate headquarters is located in Redwood City, California, where we lease and occupy approximately 42,000 square feet of office and laboratory space. The current term of our Redwood City lease expires in April 2023, with an option to extend the term through January 2028.

We sublease approximately 3,000 square feet of additional laboratory space in Redwood City, California from OncoMed Pharmaceuticals, Inc. on a month-to-month basis.

We also lease approximately 22,000 square feet of office and laboratory space in Cambridge, Massachusetts. The current term of our Cambridge lease expires in February 2023, with an option to extend the term through February 2028, subject to certain conditions. We have subleased this office and laboratory space to Casma Therapeutics, Inc. The current term of this sublease expires in February 2023.

We believe our existing facilities are sufficient for our needs for the foreseeable future. To meet the future needs of our business, we may lease additional or alternate space, and we believe suitable additional or alternative space will be available in the future on commercially reasonable terms.

Item 3. Legal Proceedings.

On February 7, 2020, former employees, Hirdesh Uppal and Catriona Carey, filed lawsuits against us in the Superior Court of the State of California, San Mateo County. Following their termination in March 2019, the plaintiffs allege wrongful termination in violation of public policy, retaliatory termination in violation of the California labor code and defamation. Plaintiffs seek compensatory and punitive damages, general emotional distress damages, prejudgment interest, cost of the lawsuit and attorneys' fees. We have carefully evaluated the plaintiffs' claims and believe that we have substantial and meritorious defenses to those claims and intend to vigorously and aggressively defend our position. In March 2020, we settled all claims asserted by Catriona Carey. We do not believe this matter will have a material adverse effect on our financial position, results of operations or cash flows.

In addition, from time to time, we may become involved in other litigation or other legal proceedings. We are not currently a party to any litigation or legal proceedings that, in the opinion of our management, are probable to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on our business, financial condition, results of operations and prospects because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.**Market Price of Common Stock**

Our common stock has been listed on the Nasdaq Global Select Market under the symbol "RVMD" since February 13, 2020. Prior to that date there was no public trading market for our common stock.

On March 20, 2020, there were 210 holders of record of our common stock. We believe actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose share may be held in trust by other entities.

Dividend Policy

We have never declared or paid cash dividends on our common stock. We intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors might deem relevant.

Recent Sales of Unregistered Securities

From January 1, 2019 through December 31, 2019, we sold and issued the following unregistered securities, which share numbers have been adjusted, as appropriate, to reflect the 4.8661-for-one reverse stock split which became effective on February 7, 2020:

- (1) We granted stock options to employees, directors and consultants covering and aggregate of 3,516,276 shares of common stock, at a weighted-average exercise price of \$4.73.
- (2) We sold an aggregate of 171,110 shares of common stock to employees for cash consideration in the aggregate amount of \$0.3 million pursuant to stock options.
- (3) In June and July 2019, we issued an aggregate of 10,004,514 shares of Series C preferred stock to 34 accredited investors at a price per share of \$10.03, for a total amount raised of approximately \$100.3 million. In connection with the completion of our IPO, all 10,004,514 shares of Series C preferred stock automatically converted into an equivalent number of shares of our common stock.

The offers, sales and issuances of the securities described in this Item 5 were deemed to be exempt from registration under the Securities Act under either (i) Rule 701 promulgated under the Securities Act as offers and sale of securities pursuant to certain compensatory benefit plans and contracts relating to compensation in compliance with Rule 701 or (ii) Section 4(a)(2) of the Securities Act (and Regulation D or Regulation S promulgated thereunder) as transactions by an issuer not involving any public offering. The recipients of securities in each of these transactions represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the stock certificates and instruments issued in such transactions.

Use of Proceeds from our Public Offering of Common Stock

On February 12, 2020, our registration statement on Form S-1 (File No. 333-235968) relating to our IPO of common stock became effective. The IPO closed on February 18, 2020 at which time we issued 16,100,000 shares of common stock (including the exercise in full by the underwriters of their option to purchase an additional 2,100,000 shares of common stock) at a public offering price of \$17.00 per share. We received net proceeds from the IPO of approximately \$251.0 million, after deducting the underwriting discounts and commissions of \$19.2 million and estimated offering related expenses of \$3.5 million. None of the expenses associated with the IPO were paid to directors, officers, persons owning 10% or more of any class of equity securities, or to our affiliates. J.P. Morgan Securities LLC, Cowen and Company, LLC, SVB Leerink LLC and Guggenheim Securities, LLC acted as joint book-running managers for the offering.

There has been no material change in the planned use of proceeds from the IPO from that described in the prospectus filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act on February 13, 2020.

Item 6. Selected Financial Data.

You should read the selected historical consolidated financial data below in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the audited consolidated financial statements included elsewhere in this report. The selected consolidated financial data included in this section are not intended to replace the consolidated financial statements included elsewhere in this Annual Report on Form 10-K. We derived the selected consolidated statements of operations data for the years ended December 31, 2019, 2018 and 2017 and the selected consolidated balance sheet data at December 31, 2019 and 2018 from our audited consolidated financial statements included elsewhere in this report on Form 10-K. Our historical results are not necessarily indicative of the results that may be expected in the future.

| | Year Ended December 31, | | |
|---|-------------------------|-------------|-------------|
| | 2019 | 2018 | 2017 |
| (in thousands, except share and per share data) | | | |
| Consolidated Statements of Operations Data: | | | |
| Revenue: | | | |
| Collaboration revenue, related party | \$ 50,041 | \$ 19,420 | \$ — |
| Collaboration revenue, other | — | 745 | — |
| Total revenue | 50,041 | 20,165 | — |
| Operating expenses: | | | |
| Research and development | 91,755 | 51,084 | 26,586 |
| General and administrative | 12,406 | 9,410 | 4,543 |
| Total operating expenses | 104,161 | 60,494 | 31,129 |
| Loss from operations | (54,120) | (40,329) | (31,129) |
| Other income (expense), net: | | | |
| Interest income | 2,189 | 777 | 105 |
| Interest and other expense | (106) | (116) | (103) |
| Change in fair value of redeemable convertible preferred stock liability | — | (2,121) | — |
| Total other income (expense), net | 2,083 | (1,460) | 2 |
| Loss before income taxes | (52,037) | (41,789) | (31,127) |
| Benefit from income taxes | 4,373 | — | — |
| Net loss | \$ (47,664) | \$ (41,789) | \$ (31,127) |
| Redeemable convertible preferred stock dividends - undeclared and cumulative | (14,238) | (7,031) | (3,763) |
| Net loss attributable to common stockholders | \$ (61,902) | \$ (48,820) | \$ (34,890) |
| Net loss per share attributable to common stockholders - basic and diluted ⁽¹⁾ | \$ (22.33) | \$ (21.24) | \$ (20.25) |
| Weighted-average common shares used to compute net loss per share, basic and diluted ⁽¹⁾ | 2,772,589 | 2,298,820 | 1,723,387 |

(1) See Note 14 to our audited consolidated financial statements included elsewhere in this report for an explanation of the calculations of our basic and diluted net loss per share and the weighted-average number of shares used in computing the per share amounts.

| | As of December 31, | | |
|--|--------------------|-----------|----------|
| | 2019 | 2018 | 2017 |
| (in thousands) | | | |
| Consolidated Balance Sheet Data: | | | |
| Cash, cash equivalents and marketable securities | \$ 122,758 | \$ 69,586 | \$ 9,079 |
| Working capital | 90,929 | 54,879 | 1,843 |
| Total assets | 220,529 | 170,586 | 15,077 |
| Total liabilities | 67,994 | 73,927 | 10,546 |
| Redeemable convertible preferred stock | 305,109 | 205,081 | 72,248 |
| Accumulated deficit | (157,386) | (109,722) | (67,933) |
| Total stockholders' deficit | (152,574) | (108,422) | (67,717) |

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the consolidated financial statements and the related notes included elsewhere in this Annual Report on Form 10-K. In addition to historical financial information, this discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this report, our actual results could differ materially from the results described or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a clinical-stage precision oncology company focused on developing novel targeted therapies to inhibit elusive, high-value *frontier* targets within notorious growth and survival pathways, with particular emphasis on the RAS and mTOR signaling pathways. Our understanding of genetic drivers and adaptive resistance mechanisms in cancer, coupled with robust drug discovery and medicinal chemistry capabilities, has guided us to establish a deep pipeline targeting critical signaling nodes within these pathways. This cohesive approach underpins our clinical strategy of exploring mechanism-based dosing paradigms and in-pathway combinations to optimize treatment for cancer patients.

Our most advanced product candidate, RMC-4630, is a potent and selective inhibitor of SHP2, a central node in the RAS signaling pathway. In collaboration with Sanofi, we are evaluating RMC-4630 in a multi-cohort Phase 1/2 clinical program. This RMC-4630 Phase 1/2 program currently consists of two active clinical trials: RMC-4630-01, a Phase 1 study of RMC-4630 as a single agent, and RMC-4630-02, a Phase 1b/2 study of RMC-4630 in combination with the MEK inhibitor cobimetinib (Cotellic). In this Annual Report on Form 10-K, we report preliminary data from 63 patients who had enrolled in our Phase 1 study and received RMC-4630 as a monotherapy as of November 6, 2019 and from 8 patients who had enrolled in our Phase 1b/2 combination study and received RMC-4630 as of November 14, 2019. Leveraging our proprietary tri-complex technology platform, we are also developing a portfolio of mutant-selective RAS inhibitors that we believe are the first potent, selective, cell-active inhibitors of the active, GTP-bound form of RAS, or RAS(ON). Initially, we will prioritize four mutant RAS(ON) targets—KRASG12C, KRASG13C, KRASG12D and NRASG12C—and expect to nominate our first development candidate in 2020. Our pipeline also includes inhibitors of other key nodes within the RAS and mTOR signaling pathways, such as SOS1 and mTORC1. We believe our deep, differentiated pipeline and development strategies provide us with the opportunity to pioneer novel treatment regimens to maximize the depth and durability of clinical benefit and circumvent adaptive resistance mechanisms for patients with cancers dependent on these critical pathways.

In addition, we have two preclinical programs targeting other key nodes in the RAS and mTOR signaling pathways. Our program targeting SOS1, a protein that plays a key role in converting RAS(OFF) to RAS(ON) in cells, is currently in lead generation stage. In addition, our preclinical development candidate, RMC-5552, is designed to selectively and deeply inhibit mTORC1, thereby preventing phosphorylation and inactivation of 4E-BP1, a downstream protein in the mTOR signaling pathway that normally suppresses expression of certain oncogenes such as C-MYC. We advanced RMC-5552 into IND-enabling development in June 2019.

We have incurred net losses in each year since inception in 2014. Our net losses were \$47.7 million and \$41.8 million and \$31.1 million for the years ended December 31, 2019, 2018 and 2017, respectively. As of December 31, 2019, we had an accumulated deficit of \$157.4 million. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to continue to incur significant expenses and increasing operating losses over at least the next several years. We expect our expenses will increase in connection with our ongoing activities, as we:

- continue our platform research and drug discovery efforts to identify product candidates;
- advance product candidates through preclinical programs and clinical trials;
- manufacture supplies for our preclinical studies and clinical trials;
- pursue regulatory approval of product candidates;
- operate as a public company following the completion of our IPO in February 2020;
- maintain, protect and expand our portfolio of intellectual property rights, including patents, trade secrets and know-how; and
- hire additional personnel to support our development programs and secure additional facilities to support our operations.

Collaboration agreement with Sanofi

In June 2018, we entered into a collaborative research, development and commercialization agreement with Aventis, Inc. (an affiliate of Sanofi), or the Sanofi Agreement, to research and develop SHP2 inhibitors, including RMC-4630, for any indications. The Sanofi Agreement was assigned to Genzyme Corporation, a Sanofi affiliate, in December 2018. For the purposes of this discussion, we refer to Genzyme Corporation as Sanofi. Pursuant to the Sanofi Agreement, we granted Sanofi a worldwide, exclusive, sublicensable (subject to our consent in certain circumstances) license under certain of our patents and know-how to research, develop, manufacture, use, sell, offer for sale, import and otherwise commercialize SHP2 inhibitors, including RMC-4630, for any and all uses, subject to our exercise of rights and performance of obligations under the Sanofi Agreement. Such intellectual property exclusively licensed to Sanofi includes our interest under any of our solely-owned or jointly-owned inventions arising out of activities undertaken pursuant to the development of SHP2 inhibitor product candidates under the Sanofi Agreement.

Under the Sanofi Agreement, we have primary responsibility for performing preclinical research on SHP2 inhibitors, pursuant to an initial research plan and budget directed toward the identification, validation and optimization of SHP2 inhibitors for 2018-2020. The research plan and budget beyond 2020 will be determined by a joint research and development committee, over which Sanofi has final decision-making power subject to certain exceptions. We have primary responsibility for early clinical development of RMC-4630 pursuant to an initial development plan. The joint research and development committee is responsible for preparing development plans for other SHP2 inhibitors approved by such committee for development, if any. Sanofi is responsible for 80% of all internal and external research costs and expenses incurred under the research plan for 2019 and 2020, and for all other internal and external costs and expenses incurred to perform activities under the research and development plans. We are responsible for 20% of all internal and external research costs incurred under the research plan for 2019 and 2020, in which our share of these costs is estimated to be approximately \$2 million in total, representing less than three percent of the anticipated overall budget for the SHP2 program in 2019 and 2020. Sanofi is responsible for all costs under the development plan, and since our SHP2 program is in clinical development, the costs under the development plan are expected to be significantly greater than the costs under the research plan. We are responsible for the manufacture of SHP2 inhibitors for Phase 1 and non-registrational Phase 2 clinical trials at Sanofi's cost, while Sanofi is responsible for manufacturing SHP2 inhibitors for all other clinical trials and commercial supply. Sanofi has the sole right and responsibility to perform all regulatory activities under the Sanofi Agreement, except with respect to certain trials conducted by us or otherwise conducted under our IND, including our current clinical trials evaluating RMC-4630. Once we have completed all clinical trials for a product candidate that are assigned to us under a development plan, all regulatory approvals for such product candidate are automatically assigned to Sanofi. Unless otherwise delegated to us by the joint commercialization committee, Sanofi also has the sole right and responsibility for all aspects of the commercialization of SHP2 inhibitors in the world for any and all uses, at its expense, subject to our right to elect to co-promote SHP2 inhibitors in the United States. Sanofi is obligated to use commercially reasonable efforts to seek marketing approval for at least one SHP2 inhibitor product candidate in certain major market countries. Sanofi agrees to provide us, and we agree to provide Sanofi, with research, development and commercialization updates through the joint committees.

During the term of the Sanofi Agreement, we may not, alone or with any affiliate or third party, conduct certain research activities with respect to, or develop or commercialize, any product that contains a SHP2 inhibitor outside of the Sanofi Agreement.

Pursuant to the Sanofi Agreement, we received an upfront payment of \$50 million from Sanofi in July 2018. Upon the achievement of specified development and regulatory milestones, Sanofi will be obligated to pay us up to \$520 million in the aggregate, including up to \$235 million upon the achievement of specified development milestones and up to \$285 million upon achievement of certain marketing approval milestones. In the United States, we will share equally with Sanofi the profits and losses applicable to commercialization of SHP2 inhibitor products, pursuant to a profit/loss share agreement that the parties will negotiate based on key terms agreed in the Sanofi Agreement. On a product-by-product basis, Sanofi will also be required to pay us tiered royalties on annual net sales of each product outside the United States ranging from high single digit to mid-teen percentages. The royalty payments are subject to reduction under specified conditions set forth in the Sanofi Agreement. Subject to certain exceptions, the royalties are payable on a product-by-product and country-by-country basis until the latest of the expiration of all valid claims covering such product in such country contained in the patents licensed to Sanofi under the Sanofi Agreement and the expiration of regulatory exclusivity for such product in such country.

Sanofi has the sole and exclusive right to file, prosecute and maintain any patents licensed to it pursuant to the Sanofi Agreement, as well as to enforce infringement of or defend claims against such patents that relate to SHP2 inhibitor products.

Unless terminated earlier, the Sanofi Agreement will continue in effect until the later of the expiration of all of Sanofi's milestone and royalty payment obligations and the expiration of the profit/loss share agreement. Upon expiration of the Sanofi Agreement, the licenses granted to Sanofi thereunder shall become fully paid-up, royalty-free, perpetual and irrevocable. Sanofi may terminate the Sanofi Agreement in its entirety or on a country-by-country or product-by-product basis for any reason or for significant safety concerns, upon prior notice to us within certain specified time periods. Sanofi may terminate the Sanofi Agreement in its entirety upon our change of control, with prior notice. Either party may terminate the Sanofi Agreement if an undisputed material

breach by the other party is not cured within a defined period of time, or immediately upon notice for insolvency-related events of the other party. We may terminate the Sanofi Agreement after a certain number of years if Sanofi develops a competing program without commencing a registrational clinical trial for a SHP2 inhibitor product candidate, and subject to certain other conditions. We may also terminate the Sanofi Agreement at any time, if Sanofi ceases certain critical activities for SHP2 inhibitor product candidates for more than a specified period of time, provided that such cessations of critical activity were not a result of certain specified factors, and subject to certain other conditions. Upon any termination of the Sanofi Agreement with respect to any product or country, all licenses to Sanofi with respect to such product or country shall automatically terminate and all rights generally revert back to us. If the Sanofi Agreement is terminated, in its entirety or with respect to a product, other than by us for Sanofi's material breach or insolvency, we may be required to pay Sanofi royalties on worldwide net sales of reverted products up to mid-single digit percentages based on the development and regulatory status of such reverted products, in each case subject to reductions in accordance with the terms of the Sanofi Agreement.

Through December 31, 2019, we have received an aggregate of \$92.6 million from Sanofi, including the upfront payment and research and development expense reimbursements.

Acquisition of Warp Drive

In October 2018, we acquired all outstanding shares of Warp Drive Bio, Inc., or Warp Drive. In connection with the acquisition, we issued 6,797,915 shares of our Series B preferred stock and \$0.9 million in other consideration, for total consideration valued at \$69.0 million. The operating results associated with Warp Drive programs are reflected in our consolidated financial statements beginning on the closing date of the transaction.

In connection with the Warp Drive acquisition, we recorded \$55.8 million of in-process research and development, or IPR&D, and \$13.6 million of developed technology related to the tri-complex and genome mining platforms. Warp Drive's RAS programs were accounted for as an IPR&D asset. The IPR&D asset is considered to be an indefinite-lived asset until the completion or abandonment of the associated research and development efforts. Warp Drive's tri-complex development platform was accounted for as developed technology and is being amortized over seven years. Warp Drive's genome mining platform was accounted for as held for sale developed technology and was divested in January 2019 when we sold this genome mining platform to Ginkgo Bioworks, Inc., or Ginkgo.

In addition, we recorded \$14.6 million in goodwill associated with the Warp Drive acquisition, which largely relates to the establishment of a deferred tax liability for the non-deductible IPR&D intangible assets acquired. Goodwill will not be amortized. Goodwill and IPR&D will be tested at least annually for impairment. No impairment has been recognized as of December 31, 2019.

Financial Operations Overview

Collaboration revenue

Collaboration revenue, related party, consists of revenue under the Sanofi Agreement for our SHP2 program. We entered into the Sanofi Agreement in June 2018 and Sanofi subsequently became a related party in October 2018 as it was a stockholder of Warp Drive to which we issued equity in connection with the acquisition. We received a \$50.0 million upfront payment from Sanofi in July 2018, receive reimbursement for research and development services, and are entitled to future potential development and regulatory milestones.

Collaboration revenue, other, consists of revenue under our collaboration agreement with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. that we became a party to in October 2018 as part of the Warp Drive acquisition. This collaboration agreement was divested to Ginkgo in January 2019.

For further information on our revenue recognition policies, see "Note 2. Summary of significant accounting policies"

Research and development expenses

We substantially rely on third parties to conduct our preclinical studies, clinical trials and manufacturing. We estimate research and development expenses based on estimates of services performed, and rely on third party contractors and vendors to provide us with timely and accurate estimates of expenses of services performed to assist us in these estimates. Research and development

expenses consist primarily of costs incurred for the development of our product candidates and costs associated with identifying compounds through our discovery platform, which include:

- expenses incurred under agreements with third-party contract organizations, investigative clinical trial sites that conduct research and development activities on our behalf, and consultants;
- costs related to production of clinical materials, including fees paid to contract manufacturers;
- laboratory and vendor expenses related to the execution of discovery programs, preclinical and clinical trials;
- employee-related expenses, which include salaries, benefits and stock-based compensation; and
- facilities and other expenses, which include allocated expenses for rent and maintenance of facilities, depreciation and amortization expense, information technology and other supplies.

We expense all research and development costs in the periods in which they are incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors, collaborators and third-party service providers. Nonrefundable advance payments for goods or services to be received in future periods for use in research and development activities are deferred and recorded as prepaid assets. The prepaid amounts are then expensed as the related goods are delivered or as services are performed.

Under the Sanofi Agreement, all of our RMC-4630 research and development expenses incurred from June 2018 to December 2018 have been reimbursed by Sanofi. All RMC-4630 development expenses and 80% of RMC-4630 research expenses in 2019 are reimbursable by Sanofi. These reimbursements from Sanofi are recorded as collaboration revenue. We are responsible for early non-registrational clinical trials and Sanofi is responsible for conducting registrational clinical trials.

We expect our research and development expenses to increase substantially for the foreseeable future as we continue to invest in discovering and developing product candidates and advancing product candidates into later stages of development, which may include conducting larger clinical trials. The process of conducting the necessary research and development and clinical trials to seek regulatory approval for product candidates is costly and time-consuming, and the successful development of our product candidates is highly uncertain. As a result, we are unable to determine the duration and completion costs of our research and development projects or clinical trials or if and to what extent we will generate revenue from the commercialization and sale of any of our product candidates.

General and administrative expenses

General and administrative expenses consist primarily of personnel-related costs, consultants and professional services expenses, including legal, audit, accounting and human resources services, allocated facilities and information technology costs, and other general operating expenses not otherwise classified as research and development expenses. Personnel-related costs consist of salaries, benefits and stock-based compensation. Facilities costs consist of rent, utilities and maintenance of facilities. We expect our general and administrative expenses to increase for the foreseeable future due to anticipated increases in headcount and as a result of operating as a public company, including expenses related to compliance with the rules and regulations of the Securities and Exchange Commission, the Nasdaq Global Select Market, additional insurance expenses, investor relations activities and other administrative and professional services.

Interest income

Interest income primarily consists of interest earned on our cash equivalents and marketable securities.

Interest and other expense

Interest and other expense primarily consists of interest related to our capital lease and interest on other outstanding obligations.

Change in fair value of redeemable convertible preferred stock liability

Our March 2018 issuance and sale of Series B redeemable convertible preferred stock was tranches into two funding dates, a first closing in March 2018, and a second closing to purchase additional shares in June 2018. We classified the obligation for the future purchase of additional shares under the second closing as a liability on our consolidated balance sheets as the obligation met the definition of a freestanding financial instrument. This redeemable convertible preferred stock tranche liability was initially recorded at fair value upon the date of issuance and was subsequently remeasured to fair value at each reporting date. Changes in the fair value of the redeemable convertible preferred stock liability were recognized in the consolidated statements of operations and comprehensive loss until the obligation for the second tranche was fulfilled upon the second closing date in June 2018.

Benefit from income taxes

Benefit from income taxes relates to net changes in the valuation allowance resulting from the Warp Drive acquisition.

Results of Operations

Comparison of the years ended December 31, 2019 and 2018

| | Year Ended December 31, | | Increase/ (decrease) |
|--|--------------------------------|--------------------|---------------------------------|
| | 2019 | 2018 | |
| | (in thousands) | | |
| Revenue: | | | |
| Collaboration revenue, related party | \$ 50,041 | \$ 19,420 | \$ 30,621 |
| Collaboration revenue, other | — | 745 | (745) |
| Total revenue | 50,041 | 20,165 | 29,876 |
| Operating expenses: | | | |
| Research and development | 91,755 | 51,084 | 40,671 |
| General and administrative | 12,406 | 9,410 | 2,996 |
| Total operating expenses | 104,161 | 60,494 | 43,667 |
| Loss from operations | (54,120) | (40,329) | (13,791) |
| Other income (expense), net: | | | |
| Interest income | 2,189 | 777 | 1,412 |
| Interest and other expense | (106) | (116) | 10 |
| Change in fair value of redeemable convertible preferred stock liability | — | (2,121) | 2,121 |
| Total other income (expense), net | 2,083 | (1,460) | 3,543 |
| Loss before income taxes | (52,037) | (41,789) | (10,248) |
| Benefit from income taxes | 4,373 | — | 4,373 |
| Net loss | \$ (47,664) | \$ (41,789) | \$ (5,875) |

Collaboration revenue

Collaboration revenue, related party consists of revenue under the Sanofi Agreement, which was entered into in June 2018. Collaboration revenue, related party increased by \$30.6 million, or 158%, during the year ended December 31, 2019 compared to the same period in 2018. The increase in collaboration revenue, related party during the year ended December 31, 2019 was primarily due to increased research and development costs incurred by us for our SHP2 program under the Sanofi Agreement, which are subject to reimbursement by Sanofi to us and which advanced into a Phase 1 clinical trial in the third quarter of 2018. 2019 included a full calendar year of reimbursed expenses from Sanofi, whereas 2018 included a partial year. Cash received from Sanofi during the years ended December 31, 2019 and 2018 was \$35.2 million and \$57.4 million, respectively. Revenue is recognized based on actual costs incurred relative to total estimated costs expected to fulfill the performance obligation. Accordingly, the timing of revenue recognition is not directly correlated to the timing of cash receipts.

We anticipate collaboration revenue, related party to increase in 2020 from 2019 due to increased development costs for our SHP2 program, which are subject to reimbursement by Sanofi to us.

Research and development expenses

Research and development expenses increased by \$40.7 million, or 80%, during the year ended December 31, 2019 compared to the same period in 2018. The increase in research and development expenses during the year ended December 31, 2019 was primarily due to a \$16.2 million increase in third party costs for our RAS programs, which was acquired as part of the Warp Drive acquisition in October 2018; a \$10.4 million increase in third party expenses for our SHP2 program, which advanced into a Phase 1 monotherapy clinical trial in the third quarter of 2018, and into a Phase 1b/2 study in combination with the MEK inhibitor, cobimetinib, in the third quarter of 2019; a \$7.4 million increase in third party costs for our SOS1 program, which commenced in 2019, a \$5.1 million increase in facilities and other allocated expenses as a result of higher rent, lab supplies, utilities and information technology expenses associated with higher headcount in 2019; a \$2.5 million increase in salaries and other employee-related expenses due to increased headcount to support our research and development programs; a \$1.2 million increase in stock based compensation; and a \$0.9 million increase related to amortization of developed technology acquired as part of the Warp Drive acquisition, offset by decreases of \$2.6 million in third party expenses for our discovery programs and \$1.0 million in third party expenses for our 4EBP1 program.

General and administrative expenses

General and administrative expenses increased by \$3.0 million, or 32%, during the year ended December 31, 2019 compared to the same period in 2018. The increase was primarily due to an increase of \$1.3 million in legal, accounting and consulting expenses and an increase of \$1.1 million in stock-based compensation expense.

Interest income

Interest income increased by \$1.4 million the year ended December 31, 2019 compared to the same period in 2018. The increase was primarily due to interest income earned from higher average investment balances resulting from the net proceeds from our Series C preferred stock financing in 2019.

Interest and other expense

Interest and other expense was \$0.1 million for both years ended December 31, 2019 and 2018.

Change in fair value of redeemable convertible preferred stock liability

The liability associated with our Series B redeemable convertible preferred stock was remeasured to fair value at each reporting date until it was settled in June 2018, and we recognized the changes in the fair value in our consolidated statements of operations and comprehensive loss during year ended December 31, 2018. As the liability was settled in 2018, there were no amounts recorded to the consolidated statements of operations and comprehensive loss during the year ended December 31, 2019 associated with this liability.

Benefit from income taxes

Benefit from income taxes was \$4.4 million the year ended December 31, 2019 and relates to net changes in the valuation allowance resulting from the Warp Drive acquisition. There was no benefit from income taxes for the year ended December 31, 2018.

Comparison of the years ended December 31, 2018 and 2017

| | Year Ended December 31, | | Increase/ (decrease) |
|--|--------------------------------|--------------------|---------------------------------|
| | 2018 | 2017 | |
| | (in thousands) | | |
| Revenue: | | | |
| Collaboration revenue, related party | \$ 19,420 | \$ — | \$ 19,420 |
| Collaboration revenue, other | 745 | — | 745 |
| Total revenue | 20,165 | — | 20,165 |
| Operating expenses: | | | |
| Research and development | 51,084 | 26,586 | 51,084 |
| General and administrative | 9,410 | 4,543 | 9,410 |
| Total operating expenses | 60,494 | 31,129 | 60,494 |
| Loss from operations | (40,329) | (31,129) | (40,329) |
| Other income (expense), net: | | | |
| Interest income | 777 | 105 | 672 |
| Interest and other expense | (116) | (103) | (13) |
| Change in fair value of redeemable convertible preferred stock liability | (2,121) | — | (2,121) |
| Total other income (expense), net | (1,460) | 2 | (1,462) |
| Loss before income taxes | (41,789) | (31,127) | (10,662) |
| Benefit from income taxes | — | — | — |
| Net loss | \$ (41,789) | \$ (31,127) | \$ (10,662) |

Collaboration revenue

Collaboration revenue, related party consists of revenue under the Sanofi Agreement, which was entered into in June 2018. Collaboration revenue, related party for the years ended December 31, 2018 and 2017 was \$19.4 million and zero, respectively. Cash received from Sanofi during the years ended December 31, 2018 and 2017 was \$57.4 million and zero, respectively. Revenue is recognized based on actual costs incurred relative to total estimated costs expected to fulfill the performance obligation. Accordingly, the timing of revenue recognition is not directly correlated to the timing of cash receipts.

Research and development expenses

Research and development expenses increased by \$24.5 million, or 92%, during the year ended December 31, 2018 compared to the same period in 2017. The increase in research and development expenses in 2018 was primarily due to a \$6.7 million increase in salaries and other employee-related expenses due to increased headcount to support our research and development programs; a \$6.3 million increase in third party expenses for our SHP2 program, which advanced into a Phase 1 clinical trial in the third quarter of 2018; a \$4.2 million increase in facilities and other allocated expenses as a result of higher rent, lab supplies, utilities and information technology expenses associated with higher headcount in 2018; a \$3.4 million increase in third party expenses for our 4EBP1/mTORC1 program due to advancing the program into the lead optimization phase in 2018, which included increased pharmacology, chemistry CROs, and preliminary safety assessment costs; a \$3.1 million increase in third party expenses related to our discovery programs; and a \$0.5 million increase in stock-based compensation expense.

General and administrative expenses

General and administrative expenses increased by \$4.9 million, or 107%, during the year ended December 31, 2018 compared to 2017. The increase was primarily due to an increase of personnel-related expenses of \$2.3 million related to higher headcount in 2018; an increase of \$2.3 million in legal, accounting and consulting expenses primarily due to business development transactions and increased intellectual property activities; and an increase of \$0.3 million in stock-based compensation expense.

Interest income

Interest income increased by \$0.7 million during the year ended December 31, 2018 compared to 2017. The increase was primarily due to interest income earned from higher average investment balances resulting from the net proceeds from our Series B preferred stock financing and the upfront payment from Sanofi received in 2018.

Interest and other expense

Interest and other expense was \$0.1 million for both years ended December 31, 2018 and December 31, 2017.

Change in fair value of redeemable convertible preferred stock liability

The liability associated with our Series B redeemable convertible preferred stock was remeasured to fair value at each reporting date until it was settled in June 2018, and we recognized the changes in the fair value in our consolidated statements of operations and comprehensive loss during the year ended December 31, 2018.

Benefit from income taxes

Benefit from income taxes was zero for both the years ended December 31, 2018 and 2017.

Liquidity and capital resources

Liquidity

Since our inception through December 31, 2019, our operations have been financed primarily by net proceeds of \$230.6 million from the issuance of our preferred stock and \$92.6 million in proceeds received under the Sanofi Agreement. As of December 31, 2019, we had \$122.8 million in cash, cash equivalents and marketable securities.

On February 18, 2020, we closed our initial public offering, or IPO, and issued 16,100,000 shares of its common stock (including the exercise in full by the underwriters of their option to purchase an additional 2,100,000 shares of common stock) at a price to the public of \$17.00 per share for net proceeds of approximately \$251.0 million, after deducting underwriting discounts and commissions of \$19.2 million and expenses of \$3.5 million.

As of December 31, 2019, we had an accumulated deficit of \$157.4 million. Our primary use of cash is to fund operating expenses, which consist primarily of research and development expenditures related to our product candidates and our discovery programs, and to a lesser extent, general and administrative expenditures. We expect our expenses to continue to increase in connection with our ongoing activities, in particular as we continue to advance our product candidates and our discovery programs. In addition, upon the completion of our IPO, we expect to incur additional costs associated with operating as a public company.

We believe that our existing cash, cash equivalents and marketable securities will enable us to fund our planned operations for at least 12 months following the date of this report.

The timing and amount of future funding requirements will depend on many factors, including:

- the scope, progress, results and costs of researching and developing our product candidates and programs, and of conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining marketing approvals for product candidates we develop if clinical trials are successful;
- the success of our collaboration with Sanofi, including the continued reimbursement by Sanofi of substantially all of our research costs and all of our development costs for the SHP2 program under the Sanofi Agreement;
- whether we achieve certain clinical and regulatory milestones under our collaboration agreement with Sanofi, each of which would trigger additional payments to us;
- the cost of commercialization activities for RMC-4630, to the extent not borne by Sanofi, and any other future product candidates we develop, whether alone or in collaboration, including marketing, sales and distribution costs if RMC-4630 or any other product candidate we develop is approved for sale;
- the cost of manufacturing our current and future product candidates for clinical trials in preparation for marketing approval and in preparation for commercialization;
- our ability to establish and maintain strategic licenses or other arrangements and the financial terms of such agreements;
- the costs involved in preparing, filing, prosecuting, maintaining, expanding, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, profit share or royalties on, our future products, if any;
- the emergence of competing cancer therapies and other adverse market developments; and
- any plans to acquire or in-license other programs or technologies.

We expect to need to obtain substantial additional funding in the future for our research and development activities and continuing operations. Sanofi reimburses us for almost all of our research and development expenses associated with our SHP2 program, however Sanofi has the right to terminate the Sanofi Agreement for any reason, upon prior notice to us within certain specified time periods and upon any such termination by Sanofi with respect to any product or country, all licenses to Sanofi with respect to such product or country shall automatically terminate and all rights generally revert back to us. If we need to raise additional capital to fund our operations, funding may not be available to us on acceptable terms, or at all. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our clinical trials, research and development programs or commercialization efforts. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, debt financings and collaborations or licensing arrangements. If we do raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we are unable to raise capital, we may need to delay, reduce or terminate planned activities to reduce costs. Doing so will likely harm our ability to execute our business plans.

Cash flows

The following table summarizes our consolidated cash flows for the periods indicated:

| | Year Ended December 31, | | |
|---|-------------------------|------------------|-------------------|
| | 2019 | 2018 | 2017 |
| | (in thousands) | | |
| Net cash provided by (used in): | | | |
| Operating activities | \$ (49,616) | \$ 1,213 | \$ (25,148) |
| Investing activities | (101,969) | (1,339) | (1,575) |
| Financing activities | 98,658 | 60,847 | 22,662 |
| Net change in cash and cash equivalents | <u>\$ (52,927)</u> | <u>\$ 60,721</u> | <u>\$ (4,061)</u> |

Cash provided by (used in) operating activities

During the year ended December 31, 2019, cash used in operating activities of \$49.6 million was attributable to a net loss of \$47.7 million and a net change of \$8.8 million in our operating assets and liabilities, partially offset by a net change of \$6.9 million in non-cash charges. The non-cash charges consisted of depreciation and amortization of \$2.9 million, stock-based compensation expense of \$3.2 million, a loss on disposal of held for sales assets of \$0.6 million and a loss on disposal of property and equipment of \$0.2 million. The change in operating assets and liabilities was primarily due to a \$13.4 million decrease in deferred revenue associated with the Sanofi Agreement, a \$4.4 million decrease in deferred tax liability related to the net change in valuation allowance resulting from the Warp Drive acquisition, a \$1.4 million increase in receivable from a related party resulting from the Sanofi Agreement and a \$0.5 million increase in prepaid expenses and other current assets primarily resulting from the timing of prepayments made for research and development activities, partially offset by a \$11.3 million increase in accounts payable and accrued liabilities resulting from increases in spend for research and development activities.

During the year ended December 31, 2018, cash provided by operating activities of \$1.2 million was attributable to a net change of \$38.1 million in our operating assets and liabilities and \$4.9 million in non-cash charges, partially offset by a net loss of \$41.8 million. The non-cash charges consisted of depreciation and amortization of \$1.8 million, stock-based compensation expense of \$0.9 million, a change in the fair value of our redeemable convertible preferred stock liability of \$2.1 million, and a loss on disposal of property and equipment of \$0.2 million. The change in operating assets and liabilities was primarily due to a \$44.5 million increase in deferred revenue associated with the Sanofi Agreement, a \$2.0 million increase in accounts payable and accrued liabilities resulting from increases in spend for research and development, offset by a \$7.3 million increase in receivable from a related party resulting from the Sanofi Agreement and a \$0.9 million increase in prepaid expenses and other current assets primarily resulting from the timing of prepayments made for research and development activities.

During the year ended December 31, 2017, cash used in operating activities of \$25.1 million was attributable to a net loss of \$31.1 million, partially offset by \$1.3 million in non-cash charges and a net change of \$4.7 million in our operating assets and liabilities. The non-cash charges consisted of depreciation and amortization of \$1.2 million and stock-based compensation expense of \$0.1 million. The change in operating assets and liabilities was primarily due to a \$4.0 million increase in accounts payable and accrued liabilities resulting from increases in spend for research and development, and a \$0.6 million decrease in prepaid expenses and other current assets resulting from the timing of prepayments made for research and development activities.

Cash used in investing activities

During the year ended December 31, 2019, cash used in investing activities of \$102.0 million, was primarily comprised of purchases of marketable securities of \$172.3 million and purchases of property and equipment of \$2.5 million, partially offset by cash provided by maturities of marketable securities of \$55.5 million; sales of marketable securities of \$11.2 million, proceeds from sale of held for sale assets of \$6.0 million; and proceeds from sales of property and equipment of \$0.2 million.

During the years ended December 31, 2018 and 2017 cash used in investing activities of \$1.3 million and \$1.6 million, respectively, was comprised primarily of purchases of property and equipment.

Cash provided by financing activities

During the year ended December 31, 2019, cash provided by financing activities of \$98.7 million was comprised primarily of \$100.0 million in net cash proceeds received from the issuance of our Series C redeemable convertible preferred stock and \$0.3 million in proceeds from the issuance of common stock upon the exercise of stock options; partially offset by \$1.6 million in payments of deferred offering costs related to the IPO which closed in February 2020.

During the year ended December 31, 2018, cash provided by financing activities of \$60.8 million was comprised primarily of \$60.6 million in net cash proceeds received from the issuances of our Series B redeemable convertible preferred stock, \$0.4 million in proceeds from the issuance of common stock upon the exercise of stock options, offset by \$0.1 million in repurchases of early exercised stock options.

During the year ended December 31, 2017, cash provided by financing activities of \$22.7 million was comprised primarily of \$22.6 million in net cash proceeds received from the issuances of our Series A preferred stock, and \$0.1 million in proceeds from the issuance of common stock upon the exercise of stock options.

Contractual obligations and commitments

The following table summarizes our commitments and contractual obligations as of December 31, 2019:

| | Total | Payments Due By Period | | | |
|--------------------------------------|------------------|--|------------------|------------------|------------------------------|
| | | Less than 1 year (in thousands) | 1-3 years | 3-5 years | More than 5 years |
| Operating lease obligations | \$ 12,390 | \$ 3,728 | \$ 7,659 | \$ 1,003 | \$ — |
| Capital lease obligations | 170 | 157 | 13 | — | — |
| Total contractual obligations | \$ 12,560 | \$ 3,885 | \$ 7,672 | \$ 1,003 | \$ — |

Our contractual obligations reflect our minimum payments due for office and laboratory space leases in Redwood City, California and Cambridge, Massachusetts, which are our operating leases, and our equipment leases, which are our capital leases. Our primary Redwood City lease commenced in January 2015 and ends in April 2023. As part of the Warp Drive acquisition, we assumed Warp Drive's office and laboratory space lease in Cambridge, which ends in February 2023. In March 2019, we fully subleased the Cambridge lease to Casma Therapeutics, Inc., or Casma, on financial terms substantially the same as the original lease. The amounts reflected in the table above include our lease payments for the Cambridge lease, but do not reflect any offset for the sublease payments we are entitled to receive from Casma. The sublease by Casma and related sublease payments by Casma to us are fully guaranteed by Third Rock Ventures, LLC.

We enter into agreements in the normal course of business with contract research organizations for clinical trials, contract manufacturing organizations to provide clinical trial materials and with vendors for preclinical studies and other services and products for operating purposes which are generally cancelable at any time by us upon 30 to 90 days prior written notice. These payments are not included in this table of contractual obligations.

Off-balance sheet arrangements

We have not entered into any off-balance sheet arrangements, as defined in Item 303 of Regulation S-K.

Indemnification agreements

We enter into standard indemnification arrangements in the ordinary course of business. Pursuant to these arrangements, we indemnify, hold harmless and agree to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, in connection with any trade secret, copyright, patent or other intellectual property infringement claim by any third party with respect to its technology. The term of these indemnification agreements is generally perpetual any time after the execution of the agreement. The maximum potential amount of future payments we could be required to make under these arrangements is not determinable. We have never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, we believe the fair value of these agreements is minimal.

Critical Accounting Policies, Significant Judgments and Use of Estimate

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, as well as the reported expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

Revenue recognition

Effective January 1, 2018, we adopted Accounting Standards Codification Topic 606, *Revenue from Contracts with Customers* (ASC 606) using the full retrospective transition method. We did not have any effective contracts within the scope of this guidance prior to January 1, 2018, and the adoption of ASC 606 had no impact on our consolidated financial statements. Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which such entity expects to receive in exchange for those goods or services. In determining the appropriate amount of revenue to be recognized as we fulfill our obligations under arrangements, we perform the following steps: (i) identify the contract(s) with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations in the contract, and (v) recognize revenue when (or as) the entity satisfies the performance obligation. At contract inception, once the contract is determined to be within the scope of ASC 606, we assess the goods or services promised within each contract and determine those that are performance obligations and assess whether each promised good or service is distinct. We then recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

We enter into collaboration agreements under which we may obtain upfront license fees, research and development funding, and development, regulatory and commercial milestone payments and royalty payments. Our performance obligations under these arrangements may include licenses of intellectual property, sales and distribution rights, research and development services, delivery of manufactured product and/or participation on joint steering committees.

Licenses of intellectual property: If the license to the our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize revenue from upfront license fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, we utilize judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring proportional performance for purposes of recognizing revenue from non-refundable, upfront fees. We evaluate the measure of proportional performance each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Research, development and regulatory milestone payments: At the inception of each arrangement that includes research, development, or regulatory milestone payments, we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price. We use the most likely amount method for research, development and regulatory milestone payments. Under the most likely amount method, an entity considers the single most likely amount in a range of possible consideration amounts. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price.

Sales-based milestones and royalties: For arrangements that include sales-based milestone or royalty payments based on the level of sales, and in which the license is deemed to be the predominant item to which the sales-based milestone or royalties relate to, we recognize revenue in the period in which the sales-based milestone is achieved and in the period in which the sales associated with the royalty occur. To date, we have not recognized any sales-based milestone or royalty revenue resulting from our collaboration arrangements.

The transaction price for each collaboration agreement is determined based on the amount of consideration we expect to be entitled for satisfying all performance obligations within the agreement. Significant judgment may be required in determining the amount of variable consideration to be included in the transaction price. We use the most likely amount method to determine variable consideration and will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

Revenue is recognized based on actual costs incurred as a percentage of total estimated costs to be incurred over the performance obligation as we fulfill our performance obligations. A cost-based input method of revenue recognition requires management to make estimates of costs to complete our performance obligations. In making such estimates, significant judgment is required to evaluate assumptions related to cost estimates. The cumulative effect of revisions to estimated costs to fulfill our performance obligations will be recorded in the period in which changes are identified and amounts can be reasonably estimated.

Business combinations

Accounting for business combinations requires us to make significant estimates and assumptions, especially at the acquisition date with respect to tangible and intangible assets acquired and liabilities assumed and pre-acquisition contingencies. We use our best estimates and assumptions to accurately assign fair value to the tangible and intangible assets acquired and liabilities assumed at the acquisition date as well as the useful lives of those acquired intangible assets. Examples of critical estimates in valuing certain of the intangible assets we have acquired include but are not limited to developed technologies and in-process research and development. Our estimates may also impact our deferred income tax assets and liabilities. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

Accrued research and development expenses

We record accrued expenses for estimated preclinical study and clinical trial expenses. Estimates are based on the services performed pursuant to contracts with research institutions and contract research organizations and clinical manufacturing organizations that conduct and manage preclinical studies and clinical trials on our behalf based on actual time and expenses incurred by them. Further, we accrue expenses related to clinical trials based on the level of patient enrollment and activity according to the related agreement. We monitor patient enrollment levels and related activity to the extent reasonably possible and make judgments and estimates in determining the accrued balance in each reporting period. If we underestimate or overestimate the level of services performed or the costs of these services, our actual expenses could differ from our estimates. To date, we have not experienced significant changes in our estimates of preclinical studies and clinical trial accruals.

Stock-based compensation

We maintain an equity incentive plan as a long-term incentive for employees, consultants and members of our board of directors. The plan allows for the issuance of non-statutory options, or NSOs, incentive stock options to employees and NSOs to nonemployees.

Stock-based compensation is measured using estimated grant date fair value and recognized as compensation expense over the service period in which the awards are expected to vest. We estimate the grant date fair value, and the resulting stock-based compensation, using the Black-Scholes option-pricing model, and we use the straight-line method for expense attribution. The fair-value-based measurements of options granted to nonemployees are remeasured at each period end until the options vest and are amortized to expense as earned. The valuation model used for calculating the estimated fair value of stock awards is the Black-Scholes option-pricing model. The Black-Scholes model requires us to make assumptions and judgments about the variables used in the calculations, including the expected term (weighted-average period of time that the options granted are expected to be outstanding), the expected volatility of our common stock, the related risk-free interest rate and the expected dividend. We have elected to recognize forfeitures of stock-based awards as they occur.

The Black-Scholes option-pricing model requires the use of highly subjective assumptions to determine the fair value of stock-based awards. These assumptions include:

- *Expected Term*—The expected term represents the weighted-average period the stock options are expected to remain outstanding and is based on the options' vesting terms, contractual terms and industry peers, as we did not have sufficient historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior.
- *Expected Volatility*—Since we have been privately held and do not have any trading history for our common stock, the expected volatility is estimated based on the average volatility for comparable publicly traded biotechnology companies over a period equal to the expected term of the stock option grants. The comparable companies are chosen based on their similar size, stage in the life cycle or area of specialty.
- *Risk-Free Interest Rate*—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of the option.
- *Expected Dividend*—We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we used an expected dividend yield of zero.

Common stock valuation

Historically, for all periods prior to our IPO, the fair values of the shares of common stock underlying our stock-based awards were estimated on each grant date by our board of directors. In order to determine the fair value of our common stock underlying option grants, our board of directors considered, among other things, valuations of our common stock prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*.

For our valuations performed on or prior to December 31, 2018, we used the discounted cash flow model to estimate the value of equity, and allocated the equity value to the various classes of equity using an option pricing method, or OPM. The OPM uses option theory to value the various classes of a company's securities in light of their respective claims to the enterprise value. For our valuations performed in 2019, we utilized a multi-scenario OPM utilizing two scenarios, an IPO, scenario and a non-IPO scenario. The IPO scenario value was based on management's estimated IPO valuation and IPO timing, discounted back to the valuation date. The non-IPO scenario per share value was based on the discounted cash flow model to estimate the value of equity, allocating the equity value to the various classes of equity using an OPM. Under a multi-scenario OPM, the per share values calculated under each scenario of the OPM are weighted based on the probability of expected outcomes and the quality of the information specific to each allocation methodology to arrive at a final estimated fair value per share of the common stock before a discount for lack of marketability is applied.

Given the absence of a public trading market for our common stock, our board of directors exercised their judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common stock, including important developments in our operations, valuations performed by an independent third party, sales of preferred stock, actual operating results and financial performance, the conditions in the biotechnology industry and the economy in general, the stock price performance and volatility of comparable public companies, and the lack of liquidity of our common stock, among other factors. After the closing of our IPO, our board of directors determined the fair value of each share of underlying common stock based on the closing price of our common stock as reported on the date of the grant. Our board of directors intends all options granted to be exercisable at a price per share not less than the per share fair value of our common stock underlying those options on the grant date.

Emerging growth company status

In April 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107 of the JOBS Act provides that an "emerging growth company," or an EGC, can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, or the Securities Act, for complying with new or revised accounting standards. Thus, an EGC can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We early adopted ASC 606 as the JOBS Act does not preclude an EGC from early adopting a new or revised accounting standard earlier than the time that such standard applies to private companies. We have elected to use the extended transition period for any other new or revised accounting standards during the period in which we remain an emerging growth company; however, we may adopt certain new or revised accounting standards early.

For a complete description of our significant accounting policies, see "Note 2. Summary of significant accounting policies" in the "Notes to Consolidated Financial Statements" contained in Part II, Item 8 of this Annual Report on Form 10-K.

Recent Accounting Pronouncements

For a description of the expected impact of recent accounting pronouncements, see "Note 2. Summary of significant accounting policies" in the "Notes to Consolidated Financial Statements" contained in Part II, Item 8 of this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Interest rate risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities. The primary objective of our investment activities is to preserve capital to fund our operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of investments in a variety of securities of high credit quality and short-term duration, invested in compliance with our policy.

We held cash, cash equivalents and marketable securities of \$122.8 million as of December 31, 2019, which consisted of bank deposits, money market funds, U.S. government debt securities, U.S. government agency bonds, commercial paper and corporate bonds. We held cash and cash equivalents of \$69.6 million as of December 31, 2018, which consisted of bank deposits and money market funds. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations in interest income have not been significant for us. Due to the short-term maturities of our cash equivalents, an immediate one percent change in interest rates would not have a material effect on the fair value of our cash equivalents and marketable securities.

Foreign currency risk

Our expenses are generally denominated in U.S. dollars. However, we have entered into a limited number of contracts with vendors for research and development services with payments denominated in foreign currencies, including the Euro, British Pound and Chinese Yuan. We are subject to foreign currency transaction gains or losses on our contracts denominated in foreign currencies. To date, foreign currency transaction gains and losses have not been material to our consolidated financial statements, and we have not had a formal hedging program with respect to foreign currency. A 10% increase or decrease in current exchange rates would not have a material effect on our financial results.

Item 8. Financial Statements and Supplementary Data.

REVOLUTION MEDICINES, INC
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Revolution Medicines, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Revolution Medicines, Inc. and its subsidiary (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of operations, of comprehensive loss, of redeemable convertible preferred stock and stockholders’ deficit and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
San Jose, California
March 30, 2020

We have served as the Company’s auditor since 2017.

REVOLUTION MEDICINES, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

| | December 31, | |
|---|-------------------|-------------------|
| | 2019 | 2018 |
| Assets | | |
| Current assets: | | |
| Cash and cash equivalents | \$ 16,659 | \$ 69,586 |
| Marketable securities | 106,099 | — |
| Receivable from related party | 8,737 | 7,303 |
| Prepaid expenses and other current assets | 2,486 | 1,945 |
| Assets held for sale | — | 6,597 |
| Total current assets | 133,981 | 85,431 |
| Property and equipment, net | 7,147 | 6,872 |
| Intangible assets, net | 62,013 | 63,082 |
| Goodwill | 14,608 | 14,608 |
| Restricted cash | 214 | 214 |
| Other noncurrent assets | 2,566 | 379 |
| Total assets | <u>\$ 220,529</u> | <u>\$ 170,586</u> |
| Liabilities, redeemable convertible preferred stock and stockholders' deficit | | |
| Current liabilities: | | |
| Accounts payable | \$ 11,400 | \$ 5,236 |
| Accrued expenses and other current liabilities | 14,528 | 8,486 |
| Deferred revenue, related party, current | 17,124 | 16,830 |
| Total current liabilities | 43,052 | 30,552 |
| Deferred rent, noncurrent | 1,741 | 2,254 |
| Deferred revenue, related party, noncurrent | 14,727 | 28,413 |
| Deferred tax liability | 7,819 | 12,192 |
| Other noncurrent liabilities | 655 | 516 |
| Total liabilities | <u>67,994</u> | <u>73,927</u> |
| Commitments and contingencies (Note 8) | | |
| Redeemable convertible preferred stock, \$0.0001 par value; 192,904,770 and 146,221,732 shares authorized at December 31, 2019 and 2018, respectively; 39,600,423 and 29,595,909 shares issued and outstanding at December 31, 2019 and 2018, respectively; aggregate liquidation preference of \$308,688 and \$194,133 at December 31, 2019 and 2018, respectively | 305,109 | 205,081 |
| Stockholders' (deficit) equity: | | |
| Common stock, \$0.0001 par value; 249,000,000 and 172,000,000 shares authorized at December 31, 2019 and 2018, respectively; 3,292,124 and 3,208,924 shares issued and outstanding at December 31, 2019 and 2018, respectively | — | — |
| Additional paid-in capital | 4,738 | 1,300 |
| Accumulated other comprehensive income | 74 | — |
| Accumulated deficit | (157,386) | (109,722) |
| Total stockholders' deficit | <u>(152,574)</u> | <u>(108,422)</u> |
| Total liabilities, redeemable convertible preferred stock and stockholders' deficit | <u>\$ 220,529</u> | <u>\$ 170,586</u> |

The accompanying notes are an integral part of these Consolidated Financial Statements

REVOLUTION MEDICINES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)

| | Year Ended December 31, | | |
|---|-------------------------|--------------------|--------------------|
| | 2019 | 2018 | 2017 |
| Revenue: | | | |
| Collaboration revenue, related party | \$ 50,041 | \$ 19,420 | \$ — |
| Collaboration revenue, other | — | 745 | — |
| Total revenue | <u>50,041</u> | <u>20,165</u> | — |
| Operating expenses: | | | |
| Research and development | 91,755 | 51,084 | 26,586 |
| General and administrative | 12,406 | 9,410 | 4,543 |
| Total operating expenses | <u>104,161</u> | <u>60,494</u> | 31,129 |
| Loss from operations | <u>(54,120)</u> | <u>(40,329)</u> | (31,129) |
| Other income (expense), net: | | | |
| Interest income | 2,189 | 777 | 105 |
| Interest and other expense | (106) | (116) | (103) |
| Change in fair value of redeemable convertible preferred stock liability | — | (2,121) | — |
| Total other income (expense), net | <u>2,083</u> | <u>(1,460)</u> | 2 |
| Loss before income taxes | <u>(52,037)</u> | <u>(41,789)</u> | (31,127) |
| Benefit from income taxes | 4,373 | — | — |
| Net loss | <u>\$ (47,664)</u> | <u>\$ (41,789)</u> | <u>\$ (31,127)</u> |
| Redeemable convertible preferred stock dividends - undeclared and cumulative | (14,238) | (7,031) | (3,763) |
| Net loss attributable to common stockholders | <u>\$ (61,902)</u> | <u>\$ (48,820)</u> | <u>\$ (34,890)</u> |
| Net loss per share attributable to common stockholders - basic and diluted | <u>\$ (22.33)</u> | <u>\$ (21.24)</u> | <u>\$ (20.25)</u> |
| Weighted-average common shares used to compute net loss per share, basic and diluted | <u>2,772,589</u> | <u>2,298,820</u> | <u>1,723,387</u> |

The accompanying notes are an integral part of these Consolidated Financial Statements

REVOLUTION MEDICINES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

| | Year Ended December 31, | | |
|--|---------------------------|---------------------------|---------------------------|
| | 2019 | 2018 | 2017 |
| Net loss | \$ (47,664) | \$ (41,789) | \$ (31,127) |
| Other comprehensive income/(loss): | | | |
| Unrealized gain (loss) on investments, net | 74 | — | — |
| Total comprehensive loss | <u><u>\$ (47,590)</u></u> | <u><u>\$ (41,789)</u></u> | <u><u>\$ (31,127)</u></u> |

The accompanying notes are an integral part of these Consolidated Financial Statements

REVOLUTION MEDICINES, INC.
CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT
(in thousands, except share and per share data)

| | Redeemable Convertible Preferred Stock | | Common Stock | | Additional Paid-in Capital 1 | \$ | Accumulated other comprehensive income | \$ | Accumulated Deficit | \$ | Total Stockholders' Deficit |
|--|--|------------|--------------|--------|---------------------------------|-------|--|--------------|---------------------|--------------|-----------------------------|
| | Shares | Amount | Shares | Amount | | | | | | | |
| Balance at January 1, 2017 | 9,767,052 | \$ 49,579 | 2,428,027 | \$ — | \$ — | 1 | \$ — | \$ (36,806) | \$ (36,806) | \$ (36,805) | |
| Issuance of Series A redeemable convertible preferred stock for cash at \$4.87 per share, net of issuance costs of \$25 | 4,663,747 | 22,669 | — | — | — | — | — | — | — | — | |
| Issuance of common stock pursuant to stock option exercises | — | — | 91,699 | — | 37 | — | — | — | — | — | 37 |
| Issuance of common stock pursuant to early exercised stock options | — | — | 485,947 | — | — | — | — | — | — | — | |
| Vesting of early exercised stock options and restricted stock | — | — | — | — | 37 | — | — | — | — | — | 37 |
| Repurchases of early exercised stock | — | — | (331,845) | — | — | — | — | — | — | — | |
| Stock-based compensation expense | — | — | — | — | 141 | — | — | — | — | 141 | |
| Net loss | — | — | — | — | — | — | — | (31,127) | (31,127) | (31,127) | |
| Balance at December 31, 2017 | 14,430,799 | \$ 72,248 | 2,673,828 | \$ — | \$ 216 | \$ — | \$ (67,933) | \$ (67,933) | \$ (67,717) | \$ (67,717) | |
| Issuance of Series B redeemable convertible preferred stock for cash at \$7.30 per share, net of issuance costs of \$204, adjusted for the redeemable convertible preferred stock liability of \$2,121 | 7,731,155 | 58,347 | — | — | — | — | — | — | — | — | |
| Issuance of Series B redeemable convertible preferred stock on acquisition of Warp Drive | 6,797,915 | 68,144 | — | — | — | — | — | — | — | — | |
| Convertible note payable converted into Series B redeemable convertible preferred stock | 200,493 | 2,010 | — | — | — | — | — | — | — | — | |
| Issuance of Series B redeemable convertible preferred stock for cash at \$10.03 per share, net of issuance costs of \$34 | 435,547 | 4,332 | — | — | — | — | — | — | — | — | |
| Issuance of common stock pursuant to stock option exercises | — | — | 107,194 | — | 47 | — | — | — | — | 47 | |
| Issuance of common stock pursuant to early exercised stock options | — | — | 546,602 | — | — | — | — | — | — | — | |
| Vesting of early exercised stock options and restricted stock | — | — | — | — | 182 | — | — | — | — | 182 | |
| Repurchases of early exercised stock | — | — | (118,700) | — | — | — | — | — | — | — | |
| Stock-based compensation expense | — | — | — | — | 855 | — | — | — | — | 855 | |
| Net loss | — | — | — | — | — | — | — | (41,789) | (41,789) | (41,789) | |
| Balance at December 31, 2018 | 29,595,909 | \$ 205,081 | 3,208,924 | \$ — | 1,300 | \$ — | \$ (109,722) | \$ (109,722) | \$ (108,422) | \$ (108,422) | |
| Issuance of Series C redeemable convertible preferred stock for cash at \$10.03 per share, net of issuance costs of \$254 | 10,004,514 | 100,028 | — | — | — | — | — | — | — | — | |
| Issuance of common stock pursuant to stock option exercises | — | — | 70,250 | — | 114 | — | — | — | — | 114 | |
| Issuance of common stock pursuant to early exercised stock options | — | — | 100,860 | — | — | — | — | — | — | — | |
| Vesting of early exercised stock options | — | — | — | — | 163 | — | — | — | — | 163 | |
| Repurchases of early exercised stock | — | — | (87,910) | — | — | — | — | — | — | — | |
| Stock-based compensation expense | — | — | — | — | 3,161 | — | — | — | — | 3,161 | |
| Net unrealized gains on marketable securities | — | — | — | — | — | — | 74 | — | — | 74 | |
| Net loss | — | — | — | — | — | — | — | (47,664) | (47,664) | (47,664) | |
| Balance at December 31, 2019 | 39,600,423 | \$ 305,109 | 3,292,124 | \$ — | \$ 4,738 | \$ 74 | \$ (157,386) | \$ (157,386) | \$ (152,574) | \$ (152,574) | |

The accompanying notes are an integral part of these Consolidated Financial Statements

REVOLUTION MEDICINES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

| | Year Ended December 31, | | |
|--|-------------------------|------------------|-----------------|
| | 2019 | 2018 | 2017 |
| Cash flows from operating activities | | | |
| Net loss | \$ (47,664) | \$ (41,789) | \$ (31,127) |
| Adjustments to reconcile net loss to net cash (used in) provided by operating activities: | | | |
| Amortization of intangible assets | 1,069 | 198 | — |
| Stock-based compensation expense | 3,161 | 855 | 141 |
| Depreciation and amortization | 2,273 | 1,566 | 1,188 |
| Loss on disposal of property and equipment | 226 | 201 | — |
| Loss on disposal of held for sale assets | 597 | — | — |
| Net amortization (accretion) of premium (discount) on marketable securities | (450) | — | — |
| Change in fair value of redeemable convertible preferred stock liability | — | 2,121 | — |
| Changes in operating assets and liabilities: | | | |
| Receivable from related party | (1,434) | (7,303) | — |
| Prepaid expenses and other current assets | (541) | (909) | 553 |
| Accounts payable | 5,264 | 109 | 1,968 |
| Accrued expenses and other current liabilities | 6,042 | 1,906 | 2,029 |
| Deferred revenue, related party | (13,392) | 44,499 | — |
| Deferred rent | (513) | (552) | 100 |
| Deferred tax liability | (4,373) | — | — |
| Other noncurrent assets | (65) | — | — |
| Other noncurrent liabilities | 184 | 311 | — |
| Net cash provided by (used in) operating activities | <u>(49,616)</u> | <u>1,213</u> | <u>(25,148)</u> |
| Cash flows from investing activities | | | |
| Purchases of marketable securities | (172,266) | — | — |
| Sales of marketable securities | 11,200 | — | — |
| Maturities of marketable securities | 55,490 | — | — |
| Purchases of property and equipment | (2,589) | (1,499) | (1,575) |
| Proceeds from sales of property and equipment | 196 | — | — |
| Proceeds from sale of held for sale assets | 6,000 | — | — |
| Cash acquired in Warp Drive acquisition, net | — | 160 | — |
| Net cash used in investing activities | <u>(101,969)</u> | <u>(1,339)</u> | <u>(1,575)</u> |
| Cash flows from financing activities | | | |
| Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs | 100,028 | 60,558 | 22,588 |
| Proceeds from issuance of common stock under equity incentive plans | 277 | 420 | 74 |
| Repurchases of early exercised stock options | (45) | (131) | — |
| Payments of deferred offering costs | (1,602) | — | — |
| Net cash provided by financing activities | <u>98,658</u> | <u>60,847</u> | <u>22,662</u> |
| Net (decrease) increase in cash, cash equivalents and restricted cash | <u>(52,927)</u> | <u>60,721</u> | <u>(4,061)</u> |
| Cash, cash equivalents and restricted cash - beginning of year | <u>69,800</u> | <u>9,079</u> | <u>13,140</u> |
| Cash, cash equivalents and restricted cash - end of year | <u>\$ 16,873</u> | <u>\$ 69,800</u> | <u>\$ 9,079</u> |
| Reconciliation of cash, cash equivalents and restricted cash to consolidated balance sheets | | | |
| Cash and cash equivalents | 16,659 | 69,586 | 9,079 |
| Restricted cash | 214 | 214 | — |
| Cash, cash equivalents and restricted cash - end of year | <u>\$ 16,873</u> | <u>\$ 69,800</u> | <u>\$ 9,079</u> |
| Supplemental disclosure of non-cash investing and financing activities | | | |
| Vesting of early exercised options and restricted stock | \$ 163 | \$ 182 | \$ 37 |
| Purchases of property and equipment in accounts payable | 380 | 233 | 317 |
| Redeemable convertible preferred stock issued in Warp Drive acquisition | — | 68,144 | — |
| Extinguishment of redeemable convertible preferred stock liability | — | 2,314 | — |
| Unpaid deferred offering costs | 519 | — | — |
| Unpaid consideration for Warp Drive acquisition included within accrued expenses and other current liabilities | — | 102 | — |
| Conversion of convertible note payable into Series B redeemable convertible preferred stock | — | 2,010 | — |

The accompanying notes are an integral part of these Consolidated Financial Statements

REVOLUTION MEDICINES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization

Revolution Medicines, Inc. (the Company) is a clinical-stage precision oncology company focused on developing novel targeted therapies to inhibit targets primarily within the RAS and mTOR signaling pathways. The Company was founded in October 2014 and is headquartered in Redwood City, California.

Liquidity

The Company has incurred net operating losses in each year since inception. As of December 31, 2019, the Company had an accumulated deficit of \$157.4 million. Management believes that its cash and cash equivalents and marketable securities are sufficient to continue operating activities for at least 12 months following the issuance date of these consolidated financial statements. The Company has been able to fund its operations through the issuance and sale of redeemable convertible preferred stock in addition to proceeds received under the Company's collaboration agreement with Sanofi. Future capital requirements will depend on many factors, including the timing and extent of spending on research and development and payments the Company may receive under the Sanofi collaboration agreement or future collaboration agreements, if any. There can be no assurance that, in the event the Company requires additional financing, such financing will be available at terms acceptable to the Company if at all. Failure to generate sufficient cash flows from operations, raise additional capital, and reduce discretionary spending should additional capital not become available could have a material adverse effect on the Company's ability to achieve its intended business objectives.

Initial public offering

On February 18, 2020, the Company closed its initial public offering, or IPO and issued 16,100,000 shares of its common stock (including the exercise in full by the underwriters of their option to purchase an additional 2,100,000 shares of common stock) at a price to the public of \$17.00 per share for net proceeds of \$251.0 million, after deducting underwriting discounts and commissions of \$19.2 million and expenses of \$3.5 million.

2. Summary of significant accounting policies

Basis of presentation

The consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States (GAAP). The consolidated financial statements for the years ended December 31, 2019 and 2018 include the accounts of the Company and its wholly owned subsidiary, Warp Drive Bio, Inc. (Warp Drive). The consolidated financial statements for the year ended December 31, 2017 include only the accounts of the Revolution Medicines, Inc. All intercompany balances and transactions have been eliminated in consolidation. The functional and reporting currency of the Company and its subsidiary is the U.S. dollar.

Reverse stock split

On February 7, 2020, the Company amended and restated its amended and restated certificate of incorporation to effect a 1-for-4.8661 reverse stock split of the Company's common stock and redeemable convertible preferred stock. The par value and authorized shares of the common stock and redeemable convertible preferred stock were not adjusted as a result of the reverse stock split. All issued and outstanding common stock, options to purchase common stock and per share amounts contained in the financial statements have been retroactively adjusted to give effect to the reverse stock split for all periods presented.

Use of estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition, clinical accruals, valuation of in-process research and development and developed technologies, valuation of the redeemable convertible preferred stock liability, income taxes, useful lives of property and equipment and intangible assets, impairment of goodwill, and stock-based compensation. Actual results could materially differ from those estimates.

Cash and cash equivalents

The Company considers all highly liquid investments purchased with original maturities of three months or less at the date of purchase to be cash equivalents. As of December 31, 2019, cash equivalents consist of amounts invested in money market funds and investments in U.S. government agency bonds, commercial paper and corporate bonds with original maturities of three months or less at the date of purchase. As of December 31, 2018, cash equivalents consist of amounts invested in money market funds.

Marketable securities

Investments in marketable securities primarily consist of U.S. government debt securities, U.S. government agency bonds, commercial paper and corporate bonds. The Company has classified its marketable securities as available-for-sale and may sell these securities prior to their stated maturities. The Company views these marketable securities as available to support current operations and classifies marketable securities with maturities beyond 12 months as current assets. The Company's investments in marketable securities are carried at estimated fair value, which is derived from independent pricing sources based on quoted prices in active markets for similar securities. Unrealized gains and losses are reported as a component of accumulated other comprehensive loss. The amortized cost of marketable securities is adjusted for amortization of premiums and accretion of discounts to maturity, which is included in interest income on the consolidated statements of operations. Realized gains and losses are included in interest income on the consolidated statements of operations.

The Company periodically evaluates its investments to assess whether those with unrealized loss positions are other than temporarily impaired. The Company considers various factors in determining whether to recognize an impairment charge. If the Company determines that the decline in an investment's fair value is other-than-temporary, the difference is recognized as an impairment loss in the consolidated statements of operations. As of December 31, 2019, no other-than-temporary-impairment has been recorded.

Restricted cash

As of December 31, 2019 and 2018, the Company had \$0.2 million of noncurrent restricted cash related to a Company issued letter of credit in connection with a lease. The entire amount is held in a separate bank account to support a letter of credit agreement for the lease.

Concentration of credit risk and other risks and uncertainties

Financial instruments that potentially subject the Company to concentration of credit risk consist of cash, cash equivalents and marketable securities. The Company's cash is held by one financial institution in the United States, which management believes to be of high credit quality. Deposits at this financial institution may at times exceed federally insured limits. The Company invests in money market funds, U.S. government debt securities, U.S. government agency bonds, commercial paper and corporate bonds with high-quality accredited financial institutions. The Company has not experienced any losses on its deposits of cash and cash equivalents.

The Company is subject to credit risk as its receivable and collaboration revenue, related party are entirely related to its collaboration agreement with Sanofi. See Note 9 "Sanofi collaboration agreement."

All of the Company's clinical trial sites for its RMC-4630 clinical studies are located in the U.S., and may be affected by the COVID-19 outbreak due to prioritization of hospital resources toward the COVID-19 outbreak, travel or quarantine restrictions imposed by federal, state or local governments, and the inability to access sites for initiation and patient monitoring and enrollment. As a result, patient screening, new patient enrollment, monitoring and data collection may be affected or delayed. The Company is aware of several clinical sites involved in our RMC-4630 clinical studies that have temporarily stopped or delayed enrolling new patients, with exemptions if appropriate. These developments may delay the Company's clinical trial timelines. Some of the Company's third-party manufacturers which it uses for the supply of materials for product candidates or other materials necessary to manufacture product to conduct preclinical tests and clinical trials are located in countries affected by COVID-19, and should they experience disruptions, such as temporary closures or suspension of services, the Company would likely experience delays in advancing these tests and trials.

Fair value measurement

The carrying amounts of the Company's certain financial instruments, including cash equivalents, accounts payable and accrued expenses and other current liabilities approximate fair value due to their relatively short maturities and market interest rates, if applicable.

Assets and liabilities recorded at fair value on a recurring basis in the consolidated balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The authoritative guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

Level 1—Observable inputs such as unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level 2—Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the asset or liability. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active; and

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Property and equipment, net

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation is computed on a straight-line basis over the estimated useful lives of the related assets, which is generally three to five years. Leasehold improvements are amortized using the straight-line method over the shorter of the assets' estimated useful lives or the remaining term of the lease. Maintenance and repairs are charged to operations as incurred. Upon sale or retirement of assets, the cost and related accumulated depreciation are removed from the consolidated balance sheet and the resulting gain or loss is reflected in the consolidated statement of operations.

Useful lives of property and equipment are as follows:

| Property and equipment | Estimated useful life |
|---------------------------------|---|
| Laboratory equipment | 4-5 years |
| Leasehold improvements | Lesser of estimated useful life or remaining lease term |
| Computer equipment and software | 3 years |
| Furniture and fixtures | 5 years |

Impairment of long-lived assets

Long-lived assets are reviewed for indications of possible impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. Recoverability is measured by comparison of the carrying amounts of the asset group to the future undiscounted cash flows attributable to these assets. An impairment loss is recognized to the extent an asset group is not recoverable, and the carrying amount exceeds the projected discounted future cash flows arising from these assets. There were no impairments of long-lived assets for any of the periods presented.

Acquired intangible assets

Indefinite-lived intangible assets represent the estimated fair value assigned to in-process research and development (IPR&D) acquired in a business combination. The Company reviews indefinite-lived intangible assets for impairment at least annually or more frequently if events or changes in circumstances indicate that the carrying value of the assets might not be recoverable. If the carrying value of an indefinite-lived intangible asset exceeds its fair value, then it is written down to its adjusted fair value. As of December 31, 2019, there have been no such impairments. For IPR&D, if a product candidate derived from the indefinite-lived intangible asset is developed and commercialized, the useful life will be determined, and the carrying value will be amortized prospectively over that estimated useful life. Alternatively, if a product candidate is abandoned, the carrying value of the intangible asset will be charged to research and development expenses in the consolidated statements of operations.

Finite-lived intangible assets acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date and are carried at cost less accumulated amortization and impairment. Amortization is computed using the straight-line method over the estimated useful lives of the respective finite-lived intangible assets. Intangible assets are reviewed for impairment at least annually or more frequently if indicators of potential impairment exist. As of December 31, 2019, no such impairment has been recorded.

Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and intangible assets acquired in a business combination. The Company reviews goodwill for impairment at least annually or more frequently if events or changes in circumstances indicate that the carrying value of goodwill may not be recoverable. Goodwill is tested for impairment at the reporting unit level by first assessing the qualitative factors to determine whether it is more likely than not that the fair value of the Company's single reporting unit is less than its carrying amount. Qualitative indicators assessed include consideration of macroeconomic, industry and market conditions, the Company's overall financial performance and personnel or strategy changes. Based on the qualitative assessment, if it is determined that it is more likely than not that its fair value is less than its carrying amount, the fair value of the Company's single reporting unit is compared to its carrying value. Any excess of the goodwill carrying amount over the fair value is recognized as an impairment loss, and the carrying value of goodwill is written down to fair value. As of December 31, 2019, no goodwill impairment has been identified.

Redeemable convertible preferred stock

The Company records all shares of redeemable convertible preferred stock at their respective fair values on the dates of issuance, net of issuance costs. The redeemable convertible preferred stock is recorded outside of permanent equity because while it is not mandatorily redeemable, in the event of certain events considered not solely within the Company's control, such as a merger, acquisition or sale of all or substantially all of the Company's assets (each, a "deemed liquidation event"), the redeemable convertible preferred stock will become redeemable at the option of the holders of at least a majority of the then outstanding such shares. The Company has not adjusted the carrying values of the redeemable convertible preferred stock to the liquidation preferences of such shares because it is uncertain whether or when a deemed liquidation event would occur that would obligate the Company to pay the liquidation preferences to holders of shares of redeemable convertible preferred stock. Subsequent adjustments to the carrying values to the liquidation preferences will be made only when it becomes probable that such a deemed liquidation event will occur.

Redeemable convertible preferred stock liability

The Company's March 2018 issuance and sale of Series B redeemable convertible preferred stock was tranches into two funding dates, a first closing in March 2018, and a second closing to purchase additional shares in June 2018. The Company classified the obligation for the future purchase of additional shares under the second closing as a liability on the Company's consolidated balance sheets as the obligation met the definition of a freestanding financial instrument. This redeemable convertible preferred stock tranche liability was initially recorded at a fair value of \$0.2 million upon the date of issuance and was subsequently remeasured to fair value at each reporting date using Level 3 fair value inputs. Changes in the fair value of the redeemable convertible preferred stock tranche obligation of \$2.1 million were recognized as a component of other income (expense), net in the consolidated statements of operations and until the tranche obligation was fulfilled and extinguished upon the second closing in June 2018.

Revenue recognition

The Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies a performance obligation. At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within each contract and determines those that are performance obligations and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

The Company enters into collaboration agreements under which it may obtain upfront license fees, research and development funding, and development, regulatory and commercial milestone payments and royalty payments. The Company's performance obligations under these arrangements may include licenses of intellectual property, sales and distribution rights, research and development services, delivery of manufactured product and/or participation on joint steering committees.

Licenses of intellectual property: If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue from upfront license fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring proportional performance for purposes of recognizing revenue from non-refundable, upfront fees. The Company evaluates the measure of proportional performance each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Research, development and regulatory milestone payments: At the inception of each arrangement that includes research, development, or regulatory milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price. The Company uses the most likely amount method for research, development and regulatory milestone payments. Under the most likely amount method, an entity considers the single most likely amount in a range of possible consideration amounts. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price.

Sales-based milestones and royalties: For arrangements that include sales-based milestone or royalty payments based on the level of sales, and in which the license is deemed to be the predominant item to which the sales-based milestone or royalties relate to, the Company recognizes revenue in the period in which the sales-based milestone is achieved and in the period in which the sales associated with the royalty occur. To date, the Company has not recognized any or sales-based milestone or royalty revenue resulting from its collaboration arrangements.

Deferred revenue represents amounts received by the Company for which the related revenues have not been recognized because one or more of the revenue recognition criteria have not been met. The current portion of deferred revenue represents the amount to be recognized within one year from the balance sheet date based on the estimated performance period of the underlying performance obligation. The noncurrent portion of deferred revenue represents amounts to be recognized after one year through the end of the performance period of the performance obligation.

Research and development expenditures

Research and development expenses consist of costs incurred for the Company's own and for collaborative research and development activities. Research and development costs are expensed as incurred. Research and development costs consist of salaries and benefits, including associated stock-based compensation, and laboratory supplies and facility costs, as well as fees paid to other entities that conduct certain research and development activities on the Company's behalf. The Company estimates preclinical study and clinical trial expenses based on the services performed pursuant to contracts with research institutions and contract research organizations, or CROs, and clinical manufacturing organizations, or CMOs, that conduct and manage preclinical studies and clinical trials on the Company's behalf based on actual time and expenses incurred by them. Further, the Company accrues expenses related to clinical trials based on the level of patient activity according to the related agreement. The Company monitors patient enrollment levels and related activity to the extent reasonably possible and adjusts estimates accordingly.

Stock-based compensation

The Company measures its stock-based awards granted to employees and directors based on the estimated fair values of the awards and recognizes the compensation over the requisite service period. The Company uses the Black-Scholes option-pricing model to estimate the fair value of its stock-based awards. Stock-based compensation is recognized on a straight-line basis over the vesting period. Stock options granted to non-employees are recorded at their fair value on the measurement date and are subject to periodic adjustments as such options vest and at the end of each reporting period, and the resulting change in fair value, if any, is recognized in the Company's consolidated statements of operations during the period the related services are rendered.

Comprehensive loss

For the year ended December 31, 2019, other comprehensive loss includes net unrealized gains on marketable securities. For the years ended December 30, 2018 and 2017, there were no components of other comprehensive loss for the Company, and comprehensive loss is the same as the net loss.

Income taxes

Income taxes are accounted for under the asset and liability method. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Management makes an assessment of the likelihood that the resulting deferred tax assets will be realized. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized. Due to the Company's historical operating performance and the recorded cumulative net losses in prior fiscal periods, the net deferred tax assets have been fully offset by a valuation allowance.

The Company recognizes uncertain income tax positions at the largest amount that is more likely than not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. Changes in recognition or measurement are reflected in the period in which judgment occurs. The Company's policy is to recognize interest and penalties related to the underpayment of income taxes as a component of interest and other expense.

Net loss per share attributable to common stockholders

Basic net loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common stock and potentially dilutive securities outstanding for the period. For purposes of the diluted net loss per share calculation, redeemable convertible preferred stock, stock options, common stock subject to repurchase related to unvested restricted stock awards and early exercise of stock options are considered to be potentially dilutive securities. Basic and diluted net loss attributable to common stockholders per share is presented in conformity with the two-class method required for participating securities as the redeemable convertible preferred stock is considered a participating security because it participates in dividends with common stock. The Company also considers the shares issued upon the early exercise of stock options subject to repurchase to be participating securities because holders of such shares have non-forfeitable dividend rights in the event a dividend is paid on common stock. The holders of all series of redeemable convertible preferred stock and the holders of early exercised shares subject to repurchase do not have a contractual obligation to share in the Company's losses. As such, the net loss was attributed entirely to common stockholders. Because the Company has reported a net loss for all periods presented, diluted net loss per share is the same as basic net loss per share for those periods.

Deferred offering costs

The Company capitalizes certain legal, accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in stockholders' deficit (equity) as a reduction of additional paid-in capital generated as a result of the equity financing. Should an in-process equity financing be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the consolidated statements of operations. As of December 31, 2019, \$2.1 million of deferred offering costs were capitalized in other noncurrent assets on the consolidated balance sheets. There were no deferred offering costs as of December 31, 2018.

Segment reporting

The Company has one operating and reportable segment. The Company's chief operating decision maker, its Chief Executive Officer, manages the Company's operations on a consolidated basis for the purposes of allocating resources and evaluating financial performance. All of the Company's long-lived assets are located in the United States.

Retirement plans

The Company maintains a 401(k) retirement plan for its employees. The Company is responsible for administrative costs of the 401(k) plan. The Company may, at its discretion, make matching or profit-sharing contributions to the 401(k) plan. For the years ended December 31, 2019, 2018 and 2017, the Company made \$0.2 million, zero and zero matching contributions, respectively, under the plan.

Emerging Growth Company Status

The Company is an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. The Company has elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that it is (i) no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, these financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

Recent accounting pronouncements not yet adopted

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (ASU 2016-02). ASU 2016-02 provides accounting guidance for both lessee and lessor accounting models. The principle of ASU 2016-02 is that a lessee should recognize the assets and liabilities that arise from leases. Lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). The liability will be equal to the present value of lease payments. The asset will be based on the liability. For income statement purposes, ASU 2016-02 requires leases to be classified as either operating or finance. Operating leases will result in straight-line expense while finance leases will result in a front-loaded expense pattern. ASU 2016-02 is applicable to the Company for the fiscal year beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. In July 2018, the FASB issued supplemental adoption guidance and clarification to ASC 842 within ASU 2018-10, *Codification Improvements to Topic 842, Leases*, ASU 2018-11, *Leases (Topic 842): Targeted Improvements* and ASU 2019-01, *Leases (Topic 842): Codification Improvements*. ASU 2018-11 provides another transition method in addition to the existing modified retrospective transition method by allowing entities to initially apply the new leasing standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The Company plans to adopt these ASUs on January 1, 2020. While the Company continues to review its current accounting policies and practices to identify potential differences that would result from applying the new guidance, the Company currently believes the most significant changes will be related to the recognition of new right-of-use assets and lease liabilities in the Company's consolidated balance sheet for operating leases. The Company expects to elect transitional practical expedients such that the Company will not need to reassess whether contracts are leases and will retain lease classification and initial direct costs for leases existing prior to the adoption of the new lease standard.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* (ASU 2016-13), which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASU 2016-13 replaces the existing incurred loss impairment model with an expected loss model. It also eliminates the concept of other-than-temporary impairment and requires credit losses related to available-for-sale debt securities to be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. These changes will result in earlier recognition of credit losses. In November 2018, the FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses* (ASU 2018-19) which narrowed the scope and changed the effective date for non-public entities for ASU 2016-13. The FASB subsequently issued supplemental guidance within ASU No. 2019-05, *Financial Instruments—Credit Losses (Topic 326): Targeted Transition Relief* (ASU 2019-05). ASU 2019-05 provides an option to irrevocably elect the fair value option for certain financial assets previously measured at amortized cost basis. ASU 2016-13 is applicable to the Company for the fiscal year beginning after December 15, 2021. Early adoption is permitted. The Company is currently evaluating the impact the adoption of these ASUs will have on its consolidated financial statements and related disclosures.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* (ASU 2018-07). ASU 2018-07 simplifies the accounting for share-based payments to nonemployees by aligning it with the accounting for share-based payments to employees, with certain exceptions. ASU 2018-07 is applicable to the Company for the fiscal year beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. The Company is currently evaluating the impact the adoption of this ASU will have on its consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement Disclosure Framework* (ASU 2018-13). ASU 2018-13 is part of a broader disclosure framework project by the FASB to improve the effectiveness of disclosures by more clearly communicating the information to the user. ASU 2018-13 is applicable to the Company for the fiscal year beginning after December 15, 2019. The Company is currently evaluating the impact the adoption of this ASU will have on its consolidated financial statement disclosures.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles—Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* (ASU 2018-15). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a cloud computing arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use-software. This ASU is effective for the Company for the fiscal year beginning after December 31, 2020, and interim periods within fiscal years beginning after December 31, 2021. The Company is currently evaluating the impact of this ASU on the Company's consolidated financial statements.

In November 2018, the FASB issued ASU No. 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606* (ASU 2018-18). ASU 2018-18 clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606 when the counterparty is a customer for a distinct good or service (i.e. a unit of account). For units of account that are in the scope of Topic 606, all of the guidance in Topic 606 should be applied, including the guidance on recognition, measurement, presentation and disclosure. ASU 2018-18 also adds a reference in ASC Topic 808, Collaborative Arrangements (Topic 808) to the unit of account guidance in Topic 606 and requires that it be applied only to assess whether transactions in a collaborative arrangement are in the scope of Topic 606. ASU 2018-18 will preclude entities from presenting amounts related to transactions with a counterparty in a collaborative arrangement that is not a customer as revenue from contracts with customers. ASU 2018-18 is effective for the Company in the first quarter of 2020. The Company is currently assessing the impact of ASU 2018-18 on its consolidated financial statements.

In December 2019, the Financial Accounting Standards Board (FASB) issued ASU 2019-12, *Income Taxes (Topic 740)-Simplifying the Accounting for Income Taxes* (ASU 2019-12). ASU 2019-12 simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740 and clarifying and amending existing guidance. ASU 2019-12 will be effective for the Company in the first quarter of 2021 with early adoption permitted. The Company is currently assessing the impact of ASU 2019-12 on its consolidated financial statements.

3. Fair value measurements

The following table presents information about the Company's financial assets that are measured at fair value and indicates the fair value hierarchy of the valuation:

| | December 31, 2019 | | | |
|---|-------------------|-----------------|-------------------|-------------|
| | Total | Level 1 | Level 2 | Level 3 |
| | (in thousands) | | | |
| Assets: | | | | |
| Money market funds (1) | \$ 9,369 | \$ 9,369 | \$ — | \$ — |
| Commercial paper (2) | 32,597 | — | 32,597 | — |
| U.S. government and agency securities (2) | 42,814 | — | 42,814 | — |
| Corporate bonds (2) | 38,837 | — | 38,837 | — |
| Total | \$ 123,617 | \$ 9,369 | \$ 114,248 | \$ — |

| | December 31, 2018 | | | |
|---|-------------------|------------------|-------------|---------------|
| | Total | Level 1 | Level 2 | Level 3 |
| | (in thousands) | | | |
| Assets: | | | | |
| Money market funds (1) | \$ 69,353 | \$ 69,353 | \$ — | \$ — |
| Contingently returnable consideration asset (3) | 310 | — | — | 310 |
| Total | \$ 69,663 | \$ 69,353 | \$ — | \$ 310 |

(1) Included in cash and cash equivalents on the consolidated balance sheets.

(2) Included in marketable securities on the consolidated balance sheets.

(3) Included in prepaid expenses and other current assets on the consolidated balance sheets.

Money market funds are measured at fair value on a recurring basis using quoted prices. U.S. government debt securities, U.S. government agency bonds, commercial paper and corporate bonds are measured at fair value, which is derived from independent pricing sources based on quoted prices in active markets for similar securities.

The contingently returnable consideration asset relates to the fair value of the Warp Drive acquisition holdback, which was determined using an income-based approach. The key assumptions in determining the fair value are the discount rate and the probability assigned to the potential holdback. During 2019, the events subject to the holdback occurred and the issued shares and cash were no longer subject to the holdback provision, reducing the fair value of the contingently returnable consideration asset to zero. The Company recorded \$0.3 million in research and development expense in the consolidated statement of operations related to this change in fair value.

There were no transfers between Levels 1, 2 or 3 for any of the periods presented.

4. Available-for-sale securities

The following tables summarize the estimated value of the Company's available-for-sale marketable securities and cash equivalents and the gross unrealized gains and losses:

| | December 31, 2019 | | | | |
|---|-------------------|-----------------------|---------------|-----------------------|----------------------|
| | Amortized cost | Gross unrealized gain | | Gross unrealized loss | Estimated fair value |
| | (in thousands) | | | | |
| Marketable securities: | | | | | |
| Commercial paper | \$ 24,446 | \$ 3 | \$ (1) | \$ 24,448 | |
| U.S. government and agency securities | 42,777 | 39 | (2) | 42,814 | |
| Corporate bonds | 38,802 | 37 | (2) | 38,837 | |
| Total marketable securities | 106,025 | 79 | (5) | 106,099 | |
| Cash equivalents: | | | | | |
| Money market funds | 9,369 | — | — | 9,369 | |
| Commercial paper | 8,149 | — | — | 8,149 | |
| Total cash equivalents | 17,518 | — | — | 17,518 | |
| Total available-for-sale investments | \$ 123,543 | \$ 79 | \$ (5) | \$ 123,617 | |

| | December 31, 2018 | | | | |
|---|-------------------|-----------------------|-------------|-----------------------|----------------------|
| | Amortized cost | Gross unrealized gain | | Gross unrealized loss | Estimated fair value |
| | (in thousands) | | | | |
| Cash equivalents: | | | | | |
| Money market funds | \$ 69,353 | \$ — | \$ — | \$ — | \$ 69,353 |
| Commercial paper | — | — | — | — | — |
| Total cash equivalents | 69,353 | — | — | — | 69,353 |
| Total available-for-sale investments | \$ 69,353 | \$ — | \$ — | \$ — | \$ 69,353 |

The amortized cost and estimated fair value of the Company's available-for-sale marketable securities by contractual maturity are summarized below as of December 31, 2019:

| | December 31, 2019 | | | | |
|---|-------------------|-----------------------|---------------|-----------------------|----------------------|
| | Amortized cost | Gross unrealized gain | | Gross unrealized loss | Estimated fair value |
| | (in thousands) | | | | |
| Mature in one year or less | \$ 121,543 | \$ 79 | \$ (4) | \$ 121,618 | |
| Mature after one year through two years | 2,000 | — | (1) | 1,999 | |
| Total marketable securities | \$ 123,543 | \$ 79 | \$ (5) | \$ 123,617 | |

5. Balance sheet components

Property and equipment, net

Property and equipment, net consists of the following:

| | December 31, | |
|---|-----------------|-----------------|
| | 2019 | 2018 |
| | (in thousands) | |
| Laboratory equipment | \$ 8,032 | \$ 6,181 |
| Leasehold improvements | 3,342 | 3,304 |
| Computer equipment and software | 1,284 | 978 |
| Furniture and fixtures | 48 | 32 |
| | 12,706 | 10,495 |
| Less: accumulated depreciation and amortization | (5,559) | (3,623) |
| Property and equipment, net | \$ 7,147 | \$ 6,872 |

Depreciation and amortization expense for property and equipment amounted to \$2.3 million, \$1.6 million and \$1.2 million for the years ended December 31, 2019, 2018 and 2017, respectively.

During the year ended December 31, 2018, the Company acquired \$2.2 million of property and equipment as part of its acquisition of Warp Drive.

Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consist of the following:

| | December 31, | |
|---|------------------|-----------------|
| | 2019 | 2018 |
| | (in thousands) | |
| Accrued compensation | \$ 4,069 | \$ 4,861 |
| Accrued research and development | 7,195 | 2,016 |
| Deferred rent, current | 609 | 552 |
| Accrued professional services | 1,607 | 264 |
| Capital lease, current | 172 | 147 |
| Other | 876 | 646 |
| Total accrued expenses and other current liabilities | \$ 14,528 | \$ 8,486 |

6. Acquisition of Warp Drive

In October 2018, the Company acquired all outstanding shares of Warp Drive in exchange for issuing 6,797,915 shares of the Company's Series B redeemable convertible preferred stock and \$0.9 million in other consideration, for total consideration of \$69.0 million. Warp Drive was a privately held biotechnology company based in Cambridge, Massachusetts.

Warp Drive's RAS programs include compounds targeting various cancer indications, while its tri-complex platform is targeted at identifying presenter proteins for binding with small molecules and a target. Additionally, Warp Drive had a genome mining platform that is subject to a collaboration agreement with Hoffman-La Roche Ltd. (Roche) involving research in the area of neomorph antibiotics.

Pursuant to ASC Topic 805, Business Combinations, the transaction was determined to be a business combination and was accounted for using the acquisition method of accounting. The following table presents a summary of the purchase price consideration for the acquisition:

| | (in thousands) |
|---|------------------|
| Series B redeemable convertible preferred stock | \$ 68,144 |
| Cash | 1,172 |
| Contingently returnable consideration asset | (310) |
| Total consideration | \$ 69,006 |

The fair value of \$10.03 per share of Series B redeemable convertible preferred stock was determined using a discounted cash flow model to estimate the value of the Company's equity, and subsequently allocated to the Series B redeemable convertible preferred stock using an option pricing method.

The shares and cash issued as part of the transaction include 494,771 shares and less than \$0.1 million of cash subject to a holdback based on certain events associated with Warp Drive's agreement with Roche. The shares and cash subject to the holdback were issued on closing of the acquisition, but would be required to be returned to the Company if the holdback events did not occur. On the acquisition date, the Company determined the fair value of the holdback provision was \$0.3 million and recorded it as a contingently returnable consideration asset on its consolidated balance sheet. The shares subject to the holdback retained their voting rights. In March 2019, the events subject to the holdback occurred and the issued shares and cash were no longer subject to the holdback provision. See Note 3, "Fair value measurements," for a description of the determination of the fair value of the contingently returnable consideration asset.

During the year ended December 31, 2018, the Company incurred \$0.4 million of acquisition-related costs as a result of the Warp Drive acquisition, which were recorded as general and administrative expenses in the consolidated statements of operations. The Company also paid \$0.6 million in transaction costs incurred by Warp Drive related to Warp Drive's advisors, which was included as part of the purchase price consideration.

The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date:

| | (in thousands) |
|--|------------------|
| Assets acquired: | |
| Cash and other current assets | \$ 1,594 |
| Property and equipment | 2,151 |
| In-process research and development - RAS programs | 55,800 |
| Developed technology - tri-complex platform | 7,480 |
| Developed technology - genome mining platform | 6,100 |
| Total assets acquired | <u>73,125</u> |
| Liabilities assumed: | |
| Accounts payable and other accrued liabilities | 3,790 |
| Convertible note payable, related party | 2,000 |
| Deferred revenue | 745 |
| Deferred tax liability | 12,192 |
| Total liabilities assumed | <u>18,727</u> |
| Goodwill | 14,608 |
| Total | \$ 69,006 |

The valuations of the IPR&D—RAS programs and developed technology—genome mining platform were determined using the income approach, which discounts expected future cash flows to present value. The discount rates used were between 13% and 14%. The projected cash flows were based on key assumptions such as: estimates of revenues and operating profits related to each program or platform considering its stage of development on the acquisition date; the time and resources needed to complete the development and approval of product candidates; the life of the potential commercialized products and associated risks, including the inherent difficulties and uncertainties in developing a product candidate such as obtaining marketing approval from the FDA and other regulatory agencies; and risks related to the viability of and potential alternative treatments in any future target markets.

Intangible assets associated with acquired IPR&D relate to the RAS programs. Management determined that the estimated acquisition-date fair value of the intangible asset related to IPR&D was \$55.8 million, which was comprised of \$44.1 million related to the KRASG12C program and \$11.7 million related to the KRASG12D program. The KRASG12C and the KRASG12D programs are each focused on developing inhibitors which target specific mutations of KRAS(ON) proteins. The acquired IPR&D is considered to be an indefinite-lived asset until the completion or abandonment of the research and development efforts. The acquired IPR&D will not be amortized until completion of the related products, which is determined by when the underlying programs reach technological feasibility and commence commercial production. Upon completion, the acquired IPR&D will be amortized over its useful life.

The valuation of the developed technology—tri-complex platform was based on a replacement cost approach as the Company's management intends to leverage the platform internally, but does not have the ability to assign a specific income stream to the asset. The tri-complex platform was accounted for as developed technology and is being amortized over 7 years. Amortization expense for the years ended December 31, 2019 and 2018 was \$1.1 million and \$0.2 million, respectively.

The genome mining platform, including the associated Roche collaboration agreement, was accounted for as held for sale developed technology and was divested in January 2019 to Gingko Bioworks, or Gingko. The Company received \$6.0 million in cash consideration from Gingko and Roche as part of the transaction, and is entitled to receive up to 25% of future milestones earned by Gingko under the collaboration agreement with Roche included as part of this sale. The Company recognized a loss on disposal of \$0.6 million during the year ended December 31, 2019, which was recorded in research and development expenses in the consolidated statements of operations.

The Company assumed a convertible promissory note, or the Convertible Note, as part of the Company's acquisition of Warp Drive. See Note 15, "Related party relationships."

Deferred revenue consists of the remaining estimated cost obligations, including mark-up, associated with the collaboration with Roche. The entire amount was recognized as revenue during the year ended December 31, 2018 and included under collaboration revenue, other in the consolidated statements of operations.

The Company recorded \$14.6 million in goodwill associated with this acquisition, which relates to the establishment of a deferred tax liability for the non-deductible in-process research and development intangible assets acquired and synergies resulting from the acquisition. Goodwill will not be amortized but will be tested at least annually for impairment.

Subsequent to the acquisition, the Company recorded \$1.4 million of severance costs during the year ended December 31, 2018 in the consolidated statement of operations.

The acquisition is considered a material business combination and accordingly unaudited pro forma information presented below for the year ended December 31, 2018, includes the effects of pro forma adjustments as if the acquisition of Warp Drive occurred on January 1, 2017, the beginning of the comparable prior annual reporting period. The unaudited pro forma results include adjustments related to the following: (i) amortization expense related to the fair value of identifiable intangible assets acquired, (ii) impact of the genome mining deposition, (iii) alignment of Warp Drive's revenue recognition policy to the Company's adoption method and adoption date of ASC 606, (iv) inclusion of incurred acquisition-related and severance costs as of the earliest period presented, (v) elimination of interest expense and gain related to Warp Drive's convertible note payable, which was converted into Warp Drive common stock immediately prior to the acquisition and subsequently converted into the Company's Series B redeemable convertible preferred stock in connection with the acquisition, and (vi) adjustment of depreciation expense related to the estimated useful lives of property and equipment acquired.

The pro forma financial information presented below is not necessarily indicative of the results of operations that would have been achieved if the acquisition occurred at the beginning of the earliest period presented, nor is it intended to be a projection of future results.

| | Year Ended December 31, | |
|----------|-------------------------|-----------|
| | 2018 | 2017 |
| Revenue | \$ 20,302 | \$ 13,318 |
| Net loss | (57,151) | (49,887) |

Revenues associated with Warp Drive included in the Company's consolidated statement of operations were \$0.7 million for the period from acquisition date to December 31, 2018. Net loss associated with Warp Drive included in the Company's consolidated statement of operations was \$4.2 million for the period from the acquisition date to December 31, 2018.

7. Intangible assets and goodwill

Intangible assets, net

Intangible assets, net consist of the following as of December 31, 2019:

| | <u>Gross value</u> (in thousands) | <u>Accumulated amortization</u> (in thousands) | <u>Net book value</u> (in thousands) | <u>Weighted-average remaining useful life</u> (in years) |
|--|--------------------------------------|---|---|---|
| In-process research and development - RAS programs | \$ 55,800 | \$ — | \$ 55,800 | n/a |
| Developed technology - tri-complex platform | 7,480 | (1,267) | 6,213 | 5.8 |
| Total | \$ 63,280 | \$ (1,267) | \$ 62,013 | |

Amortization expense for the years ended December 31, 2019, 2018 and 2017 were \$1.1 million, \$0.2 million and none, respectively. The Company had no intangible assets as of December 31, 2017. See Note 6, Acquisition of Warp Drive, for a description of the assets acquired as part of the Warp Drive acquisition.

As of December 31, 2019, future amortization expense is as follows:

| | <u>Amount</u> (in thousands) |
|--------------|---------------------------------|
| 2020 | \$ 1,069 |
| 2021 | 1,069 |
| 2022 | 1,069 |
| 2023 | 1,069 |
| 2024 | 1,069 |
| 2025 | 868 |
| Total | \$ 6,213 |

Intangible assets, net consist of the following as of December 31, 2018:

| | <u>Gross value</u> (in thousands) | <u>Accumulated amortization</u> (in thousands) | <u>Net book value</u> (in thousands) | <u>Weighted-average remaining useful life</u> (in years) |
|--|--------------------------------------|---|---|---|
| In-process research and development - RAS programs | \$ 55,800 | \$ — | \$ 55,800 | n/a |
| Developed technology - tri-complex platform | 7,480 | (198) | 7,282 | 6.8 |
| Total | \$ 63,280 | \$ (198) | \$ 63,082 | |

Goodwill

Goodwill consists of the following:

| | <u>Year ended December 31,</u> | |
|----------------------------|--------------------------------|------------------|
| | <u>2019</u> | <u>2018</u> |
| Beginning balance | \$ 14,608 | \$ — |
| Goodwill acquired (Note 6) | — | 14,608 |
| Ending balance | \$ 14,608 | \$ 14,608 |

No impairment has been recognized as of December 31, 2019. Goodwill recorded is not deductible for income tax purposes.

8. Commitments and contingencies

Operating leases

In January 2015, as amended in September 2016, the Company entered into a facility lease for office and laboratory space located in Redwood City, California (Redwood City Lease) which expires in April 2023. The landlord provided the Company with a tenant improvement allowance of \$3.4 million. The Company has assessed the tenant improvement allowance to be a lease incentive and has capitalized the full amount to property and equipment and recognized a corresponding lease financing obligation included in deferred rent on the consolidated balance sheets. The lease financing obligation is amortized as an offset to rent expense over the lease term in the consolidated statements of operations.

In conjunction with the lease agreement, the Company paid a security deposit of \$0.3 million which is included in other noncurrent assets on the consolidated balance sheets as of December 31, 2019 and 2018, respectively.

In July 2015, as amended in March 2016 and September 2016, the Company subleased a portion of the Redwood City Lease to Pliant Therapeutics, Inc., a related party, which expired in June 2018. Sublease income of zero, \$0.9 million and \$0.5 million for the years ended December 31, 2019, 2018 and 2017, respectively, was recorded as an offset to rent expense in the consolidated statements of operations.

As part of the Warp Drive acquisition in October 2018, the Company assumed a facility lease for office and laboratory space located in Cambridge, Massachusetts (Cambridge Lease) which expires in February 2023. In March 2019, the Company fully subleased the Cambridge Lease to Casma Therapeutics, Inc. (Casma), a related party, on financial terms substantially the same as the original lease. The sublease term with Casma is through the remainder of the Cambridge Lease term. The sublease by Casma and related sublease payments by Casma to the Company are fully guaranteed by Third Rock Ventures, LLC, a related party. Sublease income of \$1.3 million for the year ended December 31, 2019 was recorded as an offset to rent expense in the consolidated statements of operations. In conjunction with the Cambridge Lease, the Company issued a letter of credit for \$0.2 million, which is included in restricted cash on the consolidated balance sheet as of December 31, 2019 and 2018.

Rent expense for the years ended December 31, 2019, 2018 and 2017 was \$2.0 million, \$1.5 million and \$0.7 million, respectively, net of sublease income and tenant improvement allowance credits. The terms of the facility leases provide for rental payments on a graduated scale; however, rent expense is recognized on a straight-line basis over the lease term. As of December 31, 2019 and 2018, \$2.4 million and \$2.8 million was included as deferred rent, respectively, which includes the deferred tenant improvement allowance and straight-line rent. The current portion of deferred rent is included in accrued expenses and other current liabilities and the noncurrent portion of deferred rent is included in deferred rent, noncurrent on the consolidated balance sheets.

As of December 31, 2019, future minimum payments and receipts under the Company's operating and capital leases and sublease are as follows:

| | Gross lease commitments | Sublease income | Net lease commitments |
|-------------------------------------|-------------------------------|--------------------|-----------------------------|
| | (in thousands) | | |
| 2020 | \$ 3,885 | \$ (1,701) | \$ 2,184 |
| 2021 | 3,786 | (1,752) | 2,034 |
| 2022 | 3,886 | (1,804) | 2,082 |
| 2023 | 1,003 | (302) | 701 |
| Total future minimum lease payments | <u>\$ 12,560</u> | <u>\$ (5,559)</u> | <u>\$ 7,001</u> |

Included in the amounts above are \$0.2 million of capital lease obligations.

Legal matters

From time to time, the Company may be involved in litigation related to claims that arise in the ordinary course of its business activities. The Company accrues for these matters when it is probable that losses will be incurred and these losses can be reasonably estimated. As of December 31, 2019 and 2018, the Company does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company's financial position, results of operations or cash flows.

Indemnification

The Company enters into standard indemnification arrangements in the ordinary course of business. Pursuant to these arrangements, the Company indemnifies, holds harmless and agrees to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, in connection with any trade secret, copyright, patent or other intellectual property infringement claim by any third party with respect to its technology. The term of these indemnification agreements is generally perpetual any time after the execution of the agreement. The maximum potential amount of future payments the Company could be required to make under these arrangements is not determinable. The Company has not incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, the Company believes the fair value of these agreements is minimal.

9. Sanofi collaboration agreement

In June 2018, the Company entered into a collaborative research, development and commercialization agreement with Aventis, Inc. (an affiliate of Sanofi), or the Sanofi Agreement, to research and develop SHP2 inhibitors, including RMC-4630 for any indications. Pursuant to the Sanofi Agreement, the Company granted Sanofi a worldwide, exclusive, sublicensable (subject to the Company's consent in certain circumstances) license under certain of the Company's patents and know-how to research, develop, manufacture, use, sell, offer for sale, import and otherwise commercialize SHP2 inhibitors, including RMC-4630, for any and all uses, subject to the Company's exercise of rights and performance obligations under the Sanofi Agreement.

In October 2018, the Company acquired Warp Drive in exchange for the Company's Series B redeemable convertible preferred stock and cash. Sanofi was a stockholder of Warp Drive and received the Company's Series B redeemable convertible preferred stock during the transaction and accordingly became an investor and related party of the Company.

Under the Sanofi Agreement, the Company received a non-refundable, upfront cash payment of \$50 million in July 2018 and could also receive up to \$520 million in development and regulatory milestone payments, including up to \$235 million upon the achievement of specified development milestones and up to \$285 million upon the achievement of certain marketing approval milestones. Sanofi also agreed to reimburse the Company for 80% of all internal and external research costs and expenses incurred under the research plan for 2019 and 2020, and for all other internal and external costs and expenses incurred to perform activities under the research and development plans for the SHP2 program. The Company is responsible for 20% of all internal and external research costs incurred under the research plan for 2019 and 2020. In the United States, the Company will share equally with Sanofi the profits and losses applicable to commercialization of SHP2 inhibitor products, pursuant to a profit/loss share agreement that the parties will negotiate based on key terms agreed in the Sanofi Agreement. On a product-by-product basis, Sanofi will also be required to pay the Company tiered royalties on annual net sales of each product outside the United States ranging from high single digit to mid-teen percentages.

The Company has primary responsibility for early clinical development of RMC-4630 pursuant to an initial development plan and also has primary responsibility for the manufacture of SHP2 inhibitors for Phase 1 and Phase 2 non-registrational clinical trials, while Sanofi is responsible for manufacturing SHP2 inhibitors for all other clinical trials and commercial supply.

Unless terminated earlier, the Sanofi Agreement will continue in effect until the later of the expiration of all of Sanofi's milestone and royalty payment obligations and the expiration of the profit/loss share agreement. Sanofi may terminate the Sanofi Agreement in its entirety or on a country-by-country or product-by-product basis for any reason or for significant safety concerns, upon prior notice to the Company. Sanofi may terminate the Sanofi Agreement in its entirety upon a change of control in the Company, with prior notice. Either party may terminate the Sanofi Agreement if an undisputed material breach by the other party is not cured within a defined period of time, or immediately upon notice for insolvency-related events of the other party. The Company may terminate the Sanofi Agreement after a certain number of years if Sanofi develops a competing program without commencing a registrational clinical trial for a SHP2 inhibitor product candidate, and subject to certain other conditions. The Company may also terminate the Sanofi Agreement at any time, if Sanofi ceases certain critical activities for SHP2 inhibitor product candidates for more than a specified period of time, provided that such cessations of critical activity were not a result of certain specified factors, and subject to certain other conditions. Upon any termination of the Sanofi Agreement with respect to any product or country, all licenses to Sanofi with respect to such product or country shall automatically terminate and all rights generally revert back to the Company.

The Company identified the following promises in the agreement (1) the license related to SHP2 inhibitors, (2) the performance of research and development services for Phase 1 clinical studies and Phase 2 clinical trials that are non-registrational clinical trials and (3) the performance of manufacturing services for the non-registrational clinical trials. The Company determined that the license is not distinct from the services within the context of the agreement because the research, development and manufacturing significantly increase the utility of the intellectual property. The intellectual property (IP) related to SHP2 inhibitors, which is proprietary to the Company, is the foundation for the research and development activities. The manufacturing services are a necessary and integral part of the research and development services as they could only be conducted utilizing the outcomes of these services. Given the research and development services under the Sanofi Agreement are expected to involve significant further development of the initial IP, the Company has concluded that the research, development and manufacturing services are not distinct from the license, and thus the license, research and development services and manufacturing services are combined into a single performance obligation.

For revenue recognition purposes, the Company determined that the duration of the contract begins on the effective date of the Sanofi Agreement in July 2018 and ends upon completion of the non-registrational clinical trials. The contract duration is defined as the period in which parties to the contract have present enforceable rights and obligations. The Company analyzed the impact of Sanofi terminating the agreement prior to the completion of these trials and determined that there were significant economic costs to Sanofi for doing so.

The Company determined that the transaction price of the Sanofi Agreement was \$196.1 million as of December 31, 2019. In order to determine the transaction price, the Company evaluated all the payments to be received during the duration of the contract. The Company determined that the \$50.0 million upfront payment and \$146.1 million of estimated variable consideration for expense reimbursements from Sanofi for agreed upon research and development services as of December 31, 2019 constituted consideration to be included in the transaction price, which is to be allocated to the combined performance obligation. Development and regulatory milestones under the Sanofi Agreement were considered but not included in the transaction price, as it is probable that a significant revenue reversal could occur if they were included. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

The license, research, development and manufacturing services are combined as one performance obligation that will be performed over the duration of the contract, which is from the effective date of the Sanofi Agreement through to the completion of studies. The Company concluded that it would utilize a cost-based input method to measure proportional performance and to calculate the corresponding amount of revenue to recognize. In applying the cost-based input method of revenue recognition, the Company uses actual costs incurred relative to estimated costs to fulfill the combined performance obligation. These costs consist primarily of internal full-time equivalent efforts and third-party costs. Revenue is recognized based on actual costs incurred as a percentage of total estimated costs as the Company completes its performance obligations. The cumulative effect of revisions to estimated costs to complete the Company's performance obligations will be recorded in the period in which changes are identified and amounts can be reasonably estimated.

During the years ended December 31, 2019, 2018 and 2017, the Company recognized \$50.0 million, \$19.4 million and zero of collaboration revenue associated with this agreement, respectively.

As of December 31, 2019 and 2018, \$17.1 and \$16.8 million of deferred revenue, related party is classified as current and \$14.7 and \$28.4 million is classified as noncurrent.

10. Redeemable convertible preferred stock

From December 2014 to May 2017, the Company issued a total of 14,430,799 shares of Series A redeemable convertible preferred stock at a price per share of \$4.87 for proceeds of \$70.1 million, net of issuance costs.

In March and June 2018, the Company issued a total of 7,731,155 shares of Series B redeemable convertible preferred stock at a price per share of \$7.30 for proceeds of \$56.2 million, net of issuance costs. In October 2018, the Company issued 6,797,915 shares of Series B redeemable convertible preferred stock in conjunction with acquiring Warp Drive. As part of the Warp Drive acquisition, the Company assumed \$2.0 million in convertible notes payable, which was fully converted into 200,493 shares of Series B redeemable convertible preferred stock in October 2018. In November 2018, the Company issued 435,547 shares of Series B redeemable convertible preferred stock at a price per share of \$10.03 for proceeds of \$4.3 million, net of issuance costs.

In June and July 2019, the Company issued a total 10,004,514 shares of Series C redeemable convertible preferred stock at a price per share of \$10.03 for proceeds of \$100.0 million, net of issuance costs.

Upon the closing of the IPO, all shares of redeemable convertible preferred stock then outstanding converted into shares of common stock. See Note 16, "Subsequent events."

Redeemable convertible preferred stock consists of the following:

| | As of December 31, 2019 | | | |
|-----------------------------------|-------------------------|-------------------------------|--------------------|----------------------------------|
| | Shares authorized | Shares issued and outstanding | Net carrying value | Aggregate liquidation preference |
| (in thousands, except share data) | | | | |
| Series A | 70,221,732 | 14,430,799 | \$ 72,248 | \$ 84,865 |
| Series B | 74,000,000 | 15,165,110 | 132,833 | 120,152 |
| Series C | 48,683,038 | 10,004,514 | 100,028 | 103,671 |
| Total | <u>192,904,770</u> | <u>39,600,423</u> | <u>\$ 305,109</u> | <u>\$ 308,688</u> |

| | As of December 31, 2018 | | | |
|-----------------------------------|-------------------------|-------------------------------|--------------------|----------------------------------|
| | Shares authorized | Shares issued and outstanding | Net carrying value | Aggregate liquidation preference |
| (in thousands, except share data) | | | | |
| Series A | 70,221,732 | 14,430,799 | \$ 72,248 | \$ 80,641 |
| Series B | 76,000,000 | 15,165,110 | 132,833 | 113,492 |
| Total | <u>146,221,732</u> | <u>29,595,909</u> | <u>\$ 205,081</u> | <u>\$ 194,133</u> |

The redeemable convertible preferred stock is recorded outside of permanent equity because while it is not mandatorily redeemable, it will become redeemable upon the occurrence of certain liquidation events that are considered not solely within the Company's control. Accordingly, the redeemable convertible preferred stock has been presented in the mezzanine section on the consolidated balance sheets.

The holders of the Company's redeemable convertible preferred stock have various rights, preferences, and privileges as follows:

Conversion rights

Each share of redeemable convertible preferred stock shall be convertible, at the option of the holder, into such number of fully paid shares of common stock as is determined by dividing the original issue price by the conversion price in effect at the time of conversion. As of December 31, 2019 and 2018, the initial conversion price per share of redeemable convertible preferred stock is equivalent to the original issue price. The original issuance price was \$4.87 per share for the Series A redeemable convertible preferred stock, \$7.30 per share for the Series B redeemable convertible preferred stock and \$10.03 for the Series C redeemable convertible preferred stock.

The respective applicable conversion price is subject to adjustment upon any future stock splits or stock combinations, reclassifications or exchanges of similar stock, upon a reorganization, recapitalization, merger or consolidation of the Company, or upon the issuance or sale by the Company of common stock for consideration less than the applicable conversion price.

Each share of Series A , B and C redeemable convertible preferred stock automatically converts into the number of shares of common stock determined in accordance with the conversion rate upon the earlier of (a) written consent of a majority of the then outstanding shares of Series A, B and C redeemable convertible preferred stock, voting together as a single class, or (b) the closing of a public offering in which the gross cash proceeds are at least \$50.0 million and the minimum IPO price is \$10.03 per share of common stock, subject to adjustment for stock dividends, stock splits, combinations or other similar recapitalizations.

Dividends

The holders of the outstanding shares of each series of redeemable convertible preferred stock are entitled to receive, when and if declared by the Board of Directors, a cumulative cash dividend at the rate of 6% of the applicable original issue price per annum on each outstanding share of redeemable convertible preferred stock. Such dividends are payable in preference to any dividends for common stock declared by the Board of Directors. In the case of a dividend on common stock, the dividend per share of redeemable convertible preferred stock would also include the dividend payable on each share determined, if applicable, as if all redeemable convertible preferred stock had been converted to common stock. No dividends had been declared or paid to holders of redeemable convertible preferred stock as of December 31, 2019.

Liquidation

In the event of any liquidation, dissolution, winding up, or deemed liquidation event of the Company, either voluntary or involuntary, the holders of redeemable convertible preferred stock shall be entitled to receive pro rata, prior and in preference to any distribution to the holders of the common stock, an amount equal to the original issuance prices of each series (in each case, as adjusted for stock splits, stock dividends or distributions, recapitalizations, and similar events) and all declared but unpaid dividends, if any. If the assets and funds to be distributed among the holders of redeemable convertible preferred stock are insufficient to permit the payment to such holders, then the entire assets and funds of the Company legally available for distribution will be distributed ratably among the holders of redeemable convertible preferred stock in proportion to the preferential amount each such holder is otherwise entitled to receive.

Upon the payment of the full liquidation preference of redeemable convertible preferred stock, the remaining assets of the Company, if any, shall be distributed ratably to the holders of common stock.

Voting rights

Each share of redeemable convertible preferred stock has a number of votes equal to the number of shares of common stock into which it is convertible. The holders of Series A redeemable convertible preferred stock have the right to elect two members of the Company's Board of Directors. The holders of Series B redeemable convertible preferred stock have the right to elect one member of the Company's Board of Directors. The holders of common stock have the right to elect one member of the Company's Board of Directors. The holders of common stock and redeemable convertible preferred stock, voting together as a single class on an as-converted basis, are entitled to elect one member of the Board of Directors.

11. Common stock

As of December 31, 2019 and 2018, the Company's certificate of incorporation authorized the Company to issue 249,000,000 shares and 172,000,000 shares of common stock, respectively, at a par value of \$0.0001 per share. Each share of common stock is entitled to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the Board of Directors, subject to prior rights of the redeemable convertible preferred stockholders. As of December 31, 2019, no dividends have been declared to date.

The Company has reserved shares of common stock, on an as-converted basis, for future issuance as follows:

| | December 31, | |
|--|---------------------|-------------------|
| | 2019 | 2018 |
| Redeemable convertible preferred stock | 39,600,423 | 29,595,909 |
| Outstanding options to purchase common stock | 4,918,299 | 1,632,797 |
| Available for future issuance under the 2014 Equity Incentive Plan | 803,652 | 401,447 |
| Total | 45,322,374 | 31,630,153 |

12. Stock-based compensation

In December 2014, the Company adopted the 2014 Equity Incentive Plan (2014 Plan). The 2014 Plan provides for the Company to issue restricted common stock, or to grant incentive stock options or nonqualified stock options for the purchase of common stock, to employees, members of the Board of Directors and consultants of the Company under terms and provisions established by the Board of Directors. The Company generally grants stock-based awards with service-based vesting conditions only. Options granted typically vest over a four-year period but may be granted with different vesting terms.

The following summarizes option activity under the 2014 Plan:

| | Number of options | Weighted-average exercise price | Weighted-average remaining contractual term (in years) | Aggregate intrinsic value (in thousands) |
|---|--------------------------|--|--|--|
| Balance, January 1, 2019 | 1,632,797 | \$ 0.98 | 8.76 | \$ 5,085 |
| Options granted | 3,516,276 | 4.73 | | |
| Options exercised | (171,110) | 2.01 | | |
| Options cancelled | (59,664) | 3.73 | | |
| Balance, December 31, 2019 | <u>4,918,299</u> | \$ 3.59 | 8.96 | \$ 51,276 |
| Options vested and expected to vest as of December 31, 2019 | <u>4,918,299</u> | \$ 3.59 | 8.96 | \$ 51,276 |
| Options vested and exercisable as of December 31, 2019 | <u>1,274,216</u> | \$ 1.90 | 8.03 | \$ 15,435 |

The aggregate intrinsic values of options outstanding, exercisable, vested and expected to vest were calculated as the difference between the exercise price of the options and the estimated fair value of the Company's common stock by the Board of Directors. The intrinsic value of the options exercised for the years December 31, 2019, 2018 and 2017 was \$0.4 million, \$0.4 million, and less than \$0.1 million, respectively.

During the years ended December 31, 2019, 2018 and 2017, the weighted-average grant-date fair value of options granted was \$4.43, \$1.90 and \$0.34 per share, respectively. As of December 31, 2019, there was \$15.4 million of unrecognized stock-based compensation expense related to unvested stock options that is expected to be recognized over a weighted-average period of 3.3 years.

The total fair value of options vested for the years ended December 31, 2019, 2018 and 2017 was \$2.2 million, \$0.7 million and \$0.1 million, respectively.

The fair value of employee and director stock option awards was estimated at the date of grant using a Black-Scholes option-pricing model with the following assumptions:

| | Year Ended December 31, | | |
|-------------------------|--------------------------------|-------------|-------------|
| | 2019 | 2018 | 2017 |
| Expected term (years) | 5-6 | 5-6 | 5-6 |
| Expected volatility | 76-82% | 79-81% | 79-81% |
| Risk-free interest rate | 1.6%-2.5% | 2.5%-3.0% | 1.8%-2.2% |
| Dividend yield | 0% | 0% | 0% |

Non-employee stock option awards were measured at fair value at each reporting period using a Black-Scholes option-pricing model with the following assumptions:

| | Year Ended December 31, | | |
|-------------------------|--------------------------------|-------------|-------------|
| | 2019 | 2018 | 2017 |
| Expected term (years) | 6-10 | 7-10 | 8-10 |
| Expected volatility | 79-83% | 80% | 79-81% |
| Risk-free interest rate | 1.6%-2.6% | 2.9%-3.0% | 2.0%-2.4% |
| Dividend yield | 0% | 0% | 0% |

The fair value of the shares of common stock underlying stock options has historically been determined by the Company's Board of Directors. Because there has been no public market for the Company's common stock, the Board of Directors has determined fair value of the common stock at the time of grant of the option by considering a number of objective and subjective factors including important developments in the Company's operations, valuations performed by an independent third party, sales of redeemable convertible preferred stock, actual operating results and financial performance, the conditions in the biotechnology industry and the economy in general, the stock price performance and volatility of comparable public companies, and the lack of liquidity of the Company's common stock, among other factors.

The Black-Scholes model assumptions that determine the fair value of stock-based awards include:

Expected term—The expected term represents the weighted-average period the stock options are expected to remain outstanding and is based on the options' vesting terms, contractual terms and industry peers, as the Company did not have sufficient historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior.

Expected volatility—Given the absence of a public trading market for the common stock, the expected volatility was estimated based on the average volatility for comparable publicly traded biotechnology companies over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their similar size, stage in the life cycle or area of specialty.

Risk-free interest rate—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.

Expected dividend—The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Total stock-based compensation expense by function was as follows:

| | Year Ended December 31, | | |
|----------------------------|-------------------------|---------------|---------------|
| | 2019 | 2018 | 2017 |
| | (in thousands) | | |
| Research and development | \$ 1,789 | \$ 563 | \$ 107 |
| General and Administrative | 1,372 | 292 | 34 |
| Total | \$ 3,161 | \$ 855 | \$ 141 |

Stock-based compensation related to options granted to non-employees was \$0.7 million, \$0.3 million and less than \$0.1 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The Company allows its employees, non-employees and directors to exercise options granted under the 2014 Plan prior to vesting. The shares related to early exercised stock options are subject to the Company's lapsing repurchase right upon termination of employment at the original purchase price. In order to vest, the holders are required to provide continued service to the Company. The proceeds are initially recorded in other noncurrent liabilities and are reclassified to common stock and additional paid-in capital as the repurchase right lapses. As of December 31, 2019, 2018 and 2017, there were 349,501, 615,742 and 541,476 shares, respectively, and \$0.3 million, \$0.3 million and \$0.3 million, respectively, recorded in other noncurrent liabilities, related to early exercised shares that were subject to repurchase.

Restricted stock

In 2014, the Company issued restricted stock awards to employees and directors under the 2014 Plan at a purchase price of \$0.0001 per share. The shares related to restricted stock awards vest over a four-year period and are subject to a lapsing repurchase right upon termination of employment at the original purchase price. Recipients of restricted stock awards have voting and dividend rights with respect to such shares upon grant without regard to vesting. All restricted stock awards were vested as of December 31, 2019 and 2018, respectively.

13. Income taxes

The Company recorded an income tax benefit of \$4.4 million for the year ended December 31, 2019, which reflects a change in the valuation allowance relating to the acquisition of Warp Drive Bio in 2018. No benefit from income taxes was recorded for the years ended December 31, 2018 and 2017. The Company has incurred net pre-tax losses in the United States only for all periods presented. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to the differences between the carrying amounts of existing assets and liabilities in the financial statements and their respective tax bases using tax rates expected to be in effect during the years in which the basis differences reverse.

The benefit from income taxes differs from the amount expected by applying the federal statutory rate to the loss before taxes as follows:

| | Year Ended December 31, | | |
|---|-------------------------|--------|--------|
| | 2019 | 2018 | 2017 |
| Federal statutory income tax rate | 21.0% | 21.0% | 34.0% |
| State income tax rate, net of federal benefit | 10.7 | (17.2) | 5.9 |
| Research tax credits | 1.1 | 4.4 | 2.2 |
| Change in valuation allowance | (24.2) | (7.0) | (17.0) |
| Non-deductible permanent expenses | (0.5) | (1.4) | (0.2) |
| Remeasurement of deferred tax due to tax law change | — | — | (24.6) |
| Other | 0.3 | 0.2 | (0.3) |
| Benefit from income taxes | 8.4% | 0.0% | 0.0% |

Deferred income tax reflects the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The categories that give rise to significant components of the deferred tax assets are as follows (in thousands):

| | December 31, | |
|---|--------------|-------------|
| | 2019 | 2018 |
| Deferred tax assets: | | |
| Net operating loss carryforwards | \$ 38,511 | \$ 19,579 |
| Accruals and reserves | 11,927 | 11,338 |
| Research and development credits | 6,764 | 6,707 |
| Fixed assets and finite-lived intangible assets | — | — |
| Stock-based compensation | 1,021 | 147 |
| Other | 38 | 13 |
| Gross deferred tax assets | 58,261 | 37,784 |
| Less: valuation allowance | (47,426) | (34,870) |
| Total deferred tax assets | 10,835 | 2,914 |
| Deferred tax liabilities: | | |
| Fixed assets and finite-lived intangible assets | (10,836) | (2,914) |
| Indefinite-lived intangible assets | (7,818) | (12,192) |
| Gross deferred tax liabilities | (18,654) | (15,106) |
| Net deferred tax liability | \$ (7,819) | \$ (12,192) |

The realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Due to the lack of earnings history, the net deferred tax assets have been offset by a valuation allowance. The valuation allowance increased by \$12.6 million and \$15.1 million during the years ended December 31, 2019 and 2018, respectively. The Company had net operating loss carryforwards for federal, California, Massachusetts, and New Jersey income tax purposes of \$147.2 million, \$58.6 million, \$45.9 million and \$51.7 million, respectively, as of December 31, 2019. The federal and Massachusetts net operating loss carryforwards, if not utilized, will expire beginning in 2035, with the exception of \$53.5 million in federal net operating loss carryforwards, which can be carried forward indefinitely. California net operating loss carryforwards, if not utilized, will expire beginning in 2034. New Jersey net operating loss carryforwards, if not utilized, will expire beginning in 2039. Under the TJCA, federal net operating losses arising after December 31, 2017 do not expire and cannot be carried back. However, the TJCA limits the amount of federal net operating losses that can be used annually to 80% of taxable income for periods beginning after December 31, 2017. Existing federal net operating losses arising in years ending on or before December 31, 2017 are not affected by these provisions.

The Company also had federal and state research and development credit carryforwards of \$5.8 million and \$4.1 million, respectively, as of December 31, 2019. The federal credits will expire starting in 2034 if not utilized and the state research credits will expire beginning in 2031, with the exception of \$3.0 million in California research credits, which can be carried forward indefinitely. Federal, California, Massachusetts and New Jersey tax laws impose significant restrictions on the utilization of net operating loss carryforwards in the event of a change in ownership of the Company, as defined by Internal Revenue Code Section 382 (Section 382). The Company performed a study in which it determined that it had experienced a change in ownership in June 2018 as defined by Section 382. No federal or state net operating losses are expected to expire unutilized as a result of the limitation. In addition, in the future the Company may experience ownership changes, which may limit the utilization of net operating loss carryforwards or other tax attributes.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits is as follows:

| | December 31, | |
|--|--------------|----------|
| | 2019 | 2018 |
| Beginning balance | \$ 2,441 | \$ 525 |
| Changes related to tax positions taken in the prior year | (567) | 872 |
| Changes related to tax positions taken in current year | 545 | 1,044 |
| Ending balance | \$ 2,419 | \$ 2,441 |

The Company has unrecognized tax benefits of \$2.2 million and \$2.2 million as of December 31, 2018 and 2019, which would affect the effective tax rate if recognized; however, recognition would be in the form of a deferred tax attribute which would likely be offset by a valuation allowance. The Company does not anticipate any significant changes to unrecognized tax benefits over the next 12 months. The Company has recognized no interest or penalties related to uncertain tax positions for the periods presented.

Income tax returns are filed in the United States, California, Massachusetts and New Jersey. The years 2010 through 2019 remain open to examination by the domestic taxing jurisdictions to which the Company is subject. Net operating losses generated on a tax return basis by the Company for 2010 through 2019 remain open to examination by the domestic taxing jurisdictions.

14. Net loss per share attributable to common stockholders

The following table sets forth the computation of basic and diluted net loss per share attributable to common stockholders:

| | Year ended December 31, | | |
|--|-------------------------|-------------|-------------|
| | 2019 | 2018 | 2017 |
| (in thousands, except share and per share data) | | | |
| Numerator: | | | |
| Net loss | \$ (47,664) | \$ (41,789) | \$ (31,127) |
| Redeemable convertible preferred stock dividends-undclared and cumulative | (14,238) | (7,031) | (3,763) |
| Net loss attributable to common stockholders | \$ (61,902) | \$ (48,820) | \$ (34,890) |
| Denominator: | | | |
| Weighted-average shares outstanding | 3,231,389 | 3,140,848 | 2,469,805 |
| Less: Weighted-average unvested restricted shares and shares subject to repurchase | (458,800) | (842,028) | (746,418) |
| Weighted-average shares used to compute net loss per share attributable to common stockholders-basic and diluted | 2,772,589 | 2,298,820 | 1,723,387 |
| Net loss per share attributable to common stockholders-basic and diluted | \$ (22.33) | \$ (21.24) | \$ (20.25) |

The following outstanding potentially dilutive shares have been excluded from the calculation of diluted net loss per share for the periods presented due to their anti-dilutive effect:

| | Year ended December 31, | | |
|---|-------------------------|------------|------------|
| | 2019 | 2018 | 2017 |
| Redeemable convertible preferred stock | 39,600,423 | 29,595,909 | 14,430,799 |
| Options to purchase common stock | 4,918,299 | 1,632,797 | 981,176 |
| Options early exercised subject to future vesting | 349,501 | 615,742 | 541,476 |
| Restricted stock subject to future vesting | — | — | 182,813 |
| Total | 44,868,223 | 31,844,448 | 16,136,264 |

15. Related party relationships

In October 2018, the Company acquired all outstanding shares of Warp Drive Bio, Inc., or Warp Drive. In connection with the acquisition, the Company issued 6,797,915 shares of Series B redeemable convertible preferred stock, or the Acquisition Shares. Of the Acquisition Shares, 1,708,824 shares of Series B redeemable convertible preferred stock were issued to entities affiliated with Third Rock Ventures, a related party. In addition, Alexis Borisy, who is currently a member of the Company's board of directors and was a member of the Company's board of directors at the time of the acquisition of Warp Drive, was then an affiliate of Third Rock Ventures. Of the Acquisition Shares, 3,363,050 shares of Series B redeemable convertible preferred stock were issued to Sanofi, which became a related party following the acquisition. See Note 6, "Sanofi collaboration agreement," for a discussion of the Sanofi collaboration agreement.

In connection with the Company's acquisition of Warp Drive, the Company assumed a Convertible Note issued by Warp Drive to an entity affiliated with Third Rock Ventures, dated October 8, 2018. The Convertible Note was issued in a principal amount of \$2.0 million, with interest at an annual rate of 8% computed on the basis of a 360-day year. On October 30, 2018, at the Company's election, the Company converted the Convertible Note into 200,493 shares of Series B redeemable convertible preferred stock which were issued to an entity affiliated with Third Rock Ventures pursuant to the terms of the Convertible Note.

Following the Company's acquisition of Warp Drive, in January 2019, the Company entered into a sublease agreement with Casma to sublease the Cambridge Lease. The sublease by Casma and related sublease payments by Casma to the Company are fully guaranteed by an affiliate of Third Rock Ventures.

From July 2015 to June 2018, the Company subleased a portion of its Redwood City Lease to Pliant Therapeutics, Inc., an entity affiliated with Third Rock Ventures.

In connection with the Company's obligations and responsibilities under the Sanofi Agreement, in April 2019, the Company entered into a Clinical Supply Agreement with Genzyme Corporation, or Genzyme, an affiliate of Sanofi, and a Quality Agreement with Sanofi-Aventis Recherche & Developpement, an affiliate of Sanofi. The Quality Agreement was amended in December 2019. Sanofi was a related party at the time both agreements were entered into. The Clinical Supply Agreement governs how the Company will oversee the manufacture and supply of any SHP2 inhibitors requested by Genzyme for use in its clinical development activities under the Sanofi Agreement and provides that Genzyme will compensate the Company for the costs to manufacture any such product plus a 10% fee. The Quality Agreement requires that the production of RMC-4630 meets certain quality standards and puts certain conditions on the Company's arrangements with subcontractors. The Quality Agreement does not contemplate that any consideration be paid separate from the Sanofi Agreement.

16. Subsequent events

In February 2020, the Company issued and sold 16,100,000 shares of its common stock in its IPO at a public offering price of \$17.00 per share (including the exercise in full by the underwriters of their option to purchase an additional 2,100,000 shares of the Company's common stock) for net proceeds of \$251.0 million, after deducting underwriting discounts and commissions of \$19.2 million and expenses of \$3.5 million. Upon the closing of the IPO, all shares of redeemable convertible preferred stock then outstanding converted into shares of common stock.

The Company adopted the 2020 Equity Incentive Plan, or the 2020 Plan, effective February 11, 2020. The 2020 Plan provides for a variety of stock-based compensation awards, including stock options, stock appreciation rights, or SARs, restricted stock awards, restricted stock unit awards, performance bonus awards, performance stock unit awards, dividend equivalents, or other stock or cash based awards. The Company has initially reserved for issuance 5,771,197 shares of common stock pursuant to the 2020 Plan.

The Company adopted the 2020 Employee Stock Option Plan, or the 2020 ESPP, effective on February 11, 2020. The 2020 ESPP will enable eligible employees of the Company to purchase shares of common stock at a discount. The Company has reserved for issuance 528,959 shares of common stock pursuant to the 2020 ESPP.

17. Selected quarterly financial data (unaudited)

| | Quarter Ended | | | |
|---|-------------------|------------------|-----------------------|----------------------|
| | March 31, 2019 | June 30, 2019 | September 30, 2019 | December 31, 2019 |
| (unaudited, in thousands, except per share data) | | | | |
| Revenue | \$ 13,166 | \$ 12,281 | \$ 12,506 | \$ 12,088 |
| Net loss | \$ (10,131) | \$ (10,119) | \$ (12,818) | \$ (14,596) |
| Net loss per share attributable to common stockholders - basic and diluted | \$ (4.84) | \$ (4.85) | \$ (6.08) | \$ (6.48) |
| | Quarter Ended | | | |
| | March 31, 2018 | June 30, 2018 | September 30, 2018 | December 31, 2018 |
| (unaudited, in thousands, except per share data) | | | | |
| Revenue | \$ — | \$ — | \$ 9,818 | \$ 10,347 |
| Net loss | \$ (12,061) | \$ (14,222) | \$ (4,167) | \$ (11,338) |
| Net loss per share attributable to common stockholders - basic and diluted | \$ (6.46) | \$ (7.02) | \$ (2.56) | \$ (5.45) |

Net loss per common share attributable to common stockholders, basic and diluted, for the four quarters of each fiscal year may not sum to the total for the fiscal year because of the different number of shares outstanding during each period

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Our management, with the participation of our President and Chief Executive Officer and Director and our Vice President, Finance and Principal Accounting Officer, our principal executive officer and principal financial officer, respectively, have evaluated our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of December 31, 2019. Based on the evaluation, our President and Chief Executive Officer and Director and our Vice President, Finance and Principal Accounting Officer have concluded that, as of December 31, 2019, our disclosure controls and procedures were, in design and operation, effective to the reasonable assurance level.

Exemption from management's report on internal control over financial reporting for the fiscal year ended December 31, 2019

This Annual Report on Form 10-K does not include a report of management's assessment regarding internal control over financial reporting or an attestation report of our registered public accounting firm due to a transition period established by the rules of the SEC for newly public companies.

Changes in internal control over financial reporting

There were no changes in our internal controls over financial reporting during the three months ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent limitation on the effectiveness over financial reporting

The effectiveness of any system of internal control over financial reporting, including ours, is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting, including ours, no matter how well designed and operated, can only provide reasonable, not absolute assurances. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. We intend to continue to monitor and upgrade our internal controls as necessary or appropriate for our business, but cannot assure you that such improvements will be sufficient to provide us with effective internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Set forth below are the names, ages and positions of our current executive officers and directors as of December 31, 2019:

| Name | Age | Position(s) |
|---|-----|--|
| Executive Officers and Employee Director | | |
| Mark A. Goldsmith, M.D., Ph.D. | 57 | President, Chief Executive Officer and Director |
| Steve Kelsey, M.D., FRCP, FRCPPath | 58 | President, Research and Development |
| Margaret Horn, J.D. | 57 | Chief Operating Officer and General Counsel |
| Key Employees | | |
| Jack Anders | 43 | Vice President, Finance and Principal Accounting Officer |
| Non-Employee Directors | | |
| Elizabeth McKee Anderson(2) | 62 | Director |
| Alexis Borisy(2)(3) | 48 | Director |
| Neil Exter(1) | 61 | Director |
| Larry Lasky, Ph.D.(3) | 68 | Director |
| Vincent A. Miller, M.D.(2)(3) | 57 | Director |
| Thilo Schroeder, Ph.D.(1) | 38 | Director |
| Barbara Weber, M.D.(1) | 63 | Director |

(1) Member of the audit committee.

(2) Member of the compensation committee.

(3) Member of the nominating and corporate governance committee.

Executive officers and employee director

Mark A. Goldsmith, M.D., Ph.D. has served as a member of our board of directors and as our President and Chief Executive Officer since November 2014. Since 2009, Dr. Goldsmith has served as a member of the board of directors of Constellation Pharmaceuticals, Inc., a biopharmaceutical company, where he also served as President and Chief Executive Officer from 2009 to 2012, as Chairman from 2012 to June 2016 and from March 2017 to present, and as Interim Executive Chairman from June 2016 to March 2017. Dr. Goldsmith was previously a Partner with Third Rock Ventures, a life sciences venture capital firm, from 2013 to 2015, and a Venture Partner with Third Rock from 2012 to 2013. Dr. Goldsmith served as President and Chief Executive Officer and as a member of the board of directors of Global Blood Therapeutics, a biopharmaceutical company, from 2012 to 2014. Dr. Goldsmith also served as President and Chief Executive Officer of Nurix, Inc., a drug discovery company, from 2012 to 2014. Before entering the private sector, Dr. Goldsmith led a medical research laboratory at the Gladstone Institute of Virology and Immunology, practiced medicine on the faculty of the School of Medicine of the University of California, San Francisco and the San Francisco General Hospital, and was a consultant to leading pharmaceutical and biotechnology companies. Dr. Goldsmith received an A.B. from Princeton University in Biology and an M.D. and Ph.D. in Microbiology and Immunology from the School of Medicine of the University of California, San Francisco. We believe that Dr. Goldsmith's role as our President and Chief Executive Officer together with his extensive experience as an executive and director of several companies in the biopharmaceutical and biotechnology industry, his extensive knowledge of our company, his experience as a venture capital investor in the life sciences industry and his educational background provide him with the qualifications and skills necessary to serve as a member of our board of directors.

Steve Kelsey, M.D., FRCP, FRCPath has served as our President, Research and Development since March 2017. Previously, Dr. Kelsey served as President of Onkaido Therapeutics, a Moderna venture biopharmaceutical company, from 2014 to March 2017. Dr. Kelsey also served as Senior Vice President, New Projects at Medivation, a biopharmaceutical company, from 2013 to 2014. From 2009 to 2013, Dr. Kelsey served as Executive Vice President, Research and Development, and Chief Medical Officer at Geron Corporation, a biopharmaceutical company. Dr. Kelsey received a B.S.c in Pharmacology, an M.B. Ch.B. in Medicine and an M.D. from the University of Birmingham, U.K.

Margaret Horn, J.D. has served as our Chief Operating Officer since October 2018 and our General Counsel since December 2014 and previously served as our Executive Vice President from December 2014 to October 2018. Prior to joining us, Ms. Horn served as Chief Operating Officer at ProLynx LLC from 2010 to December 2014. Ms. Horn received a B.S. in Pharmacy from the University of the Sciences in Philadelphia and a J.D. from Villanova University Charles Widger School of Law.

Key employees

Jack Anders has served as our Vice President, Finance since August 2018. Prior to joining us, Mr. Anders served in various roles at Depomed, Inc. from 2006 to July 2018, including most recently as Vice President, Finance from 2013 to 2018. Mr. Anders received a B.A. in Economics with an emphasis in Accounting from the University of California, Los Angeles and is a former certified public accountant.

Non-employee directors

Elizabeth McKee Anderson has served as member of our board of directors since March 2015. Ms. Anderson has served as a member of the board of directors of BioMarin Pharmaceutical, a biotechnology company, since July 2019. Since November 2018, Ms. Anderson has served as a member of the board of directors of Insmed Incorporated, a biopharmaceutical company. Ms. Anderson has also served as a member of the board of directors of Bavarian Nordic A/S, a biotechnology company, since April 2017. Ms. Anderson previously served in various roles at Janssen Pharmaceuticals, Inc., a Johnson & Johnson company focusing on pharmaceuticals, from 2003 to 2014, most recently as Worldwide Vice President, Commercial Leader, Infectious Diseases and Vaccines, from 2012 to 2014 and Worldwide Vice President, Global Strategic Marketing and Market Access, Vaccines from 2009 to 2012. Prior to that, Ms. Anderson served as Vice President and General Manager for Wyeth Lederle Vaccines, a pharmaceutical company. Ms. Anderson received a B.Eng. in Engineering and Technical Management from Rutgers, The State University of New Jersey-New Brunswick and an M.B.A. in Finance from Loyola University of Maryland. We believe that Ms. Anderson's extensive experience in biotechnology and pharmaceutical companies and in serving on the boards of directors of biopharmaceutical and life sciences companies provides her with the qualifications and skills necessary to serve as a member of our board of directors.

Alexis Borisy has served as a member of our board of directors since November 2014. Mr. Borisy currently serves as the Chairman and Chief Executive Officer of EQRx, Inc., a biotechnology company. From 2010 to June 2019, Mr. Borisy was a Partner at Third Rock Ventures. Since June 2015, Mr. Borisy has served as a member of the board of directors of Magenta Therapeutics, Inc., a biopharmaceutical company. Mr. Borisy co-founded Blueprint Medicines Corporation, a biopharmaceutical company, and served as its Interim Chief Executive Officer from 2013 to 2014 and has served as a member of its board of directors since 2011. Mr. Borisy co-founded Foundation Medicine, Inc., or Foundation Medicine, a biotechnology company, where he served as its Interim Chief Executive Officer from 2009 to 2011 and served as a member of its board of directors from 2009 to July 2018, including as Chairman from 2011 to February 2017. Mr. Borisy previously served as a member of the board of directors of Editas Medicine, Inc., a pharmaceutical company, from 2013 to March 2018. Mr. Borisy received an A.B. in Chemistry from the University of Chicago and an A.M. in Chemistry and Chemical Biology from Harvard University. We believe Mr. Borisy's extensive experience as an executive of, and working with and serving on the boards of directors of, multiple biopharmaceutical and life sciences companies, his educational background and his experience working in the venture capital industry provide him with the qualifications and skills necessary to serve as a member of our board of directors.

Neil Exter has served as a member of our board of directors during his current term since July 2019. Mr. Exter previously served as a member of our board of directors from November 2014 to March 2016. Mr. Exter has been a Partner at Third Rock Ventures since 2007. Prior to joining Third Rock Ventures, Mr. Exter was Chief Business Officer of Alantos Pharmaceuticals from 2006 until its acquisition by Amgen in 2007. Previously, he served as Vice President of Business Development for Millennium Pharmaceuticals from 2002 to 2006. Mr. Exter previously served as a member of the boards of directors of CytomX Therapeutics, a biopharmaceutical company, from December 2010 to December 2017, and Rhythm Pharmaceuticals, a biopharmaceutical company, from 2014 to June 2019. He is a member of the Research Committee of Children's Hospital Boston, the investment committee of the Innovation Research Fund at Partners Healthcare, and the board of directors of the New England Venture Capital Association. Mr. Exter received a B.S. from Cornell University, an M.S. from Stanford University, and an M.B.A. as a Baker Scholar from Harvard Business School. We believe that Mr. Exter's extensive experience as a venture capital investor in, and director of, several biotechnology companies, provides him with the qualifications and skills necessary to serve as a member of our board of directors.

Larry Lasky, Ph.D. has served as a member of our board of directors since December 2016. Since May 2014, Dr. Lasky has served as a Partner at The Column Group, a healthcare venture capital firm. Dr. Lasky served as a member of the board of directors of OncoMed Pharmaceuticals, Inc., a biopharmaceutical company, from 2004 to June 2018. From 2007 to May 2014, Dr. Lasky was a Partner of U.S. Venture Partners, a venture capital firm, focusing on investments in biotechnology companies. From 2002 to 2007, Dr. Lasky was a General Partner of Latterell Venture Partners, a healthcare venture capital firm that he co-founded. From 1982 to 2002, Dr. Lasky was a leading scientist at Genentech, where he attained the position of Genentech Fellow. Dr. Lasky received a B.A. in Music and Molecular Biology and a Ph.D. in Molecular Biology from the University of California, Los Angeles. We believe that Dr. Lasky's scientific expertise in biotechnology, and his extensive experience as a venture capital investor in, and director of, biotechnology companies, provide him with the qualifications and skills necessary to serve as a member of our board of directors.

Vincent A. Miller, M.D. has served as a member of our board of directors since September 2017. Since April 2019, Dr. Miller has served as a Strategic Advisor to Foundation Medicines. Previously, Dr. Miller served as Foundation Medicine's Senior Vice President, Clinical Development from 2011 to 2013 and served as Foundation Medicine's Chief Medical Officer from 2013 to April 2019. From 1991 to 2011, Dr. Miller served as an Attending Physician at Memorial Sloan-Kettering Cancer Center. Since 2011, Dr. Miller has served as a Consulting Physician, at Memorial Sloan-Kettering Cancer Center. Dr. Miller received a B.A. from the University of Pennsylvania in Mathematics and an M.D. from the University of Medicine and Dentistry of New Jersey in Newark. We believe that Dr. Miller's experience in the biotechnology industry, his extensive experience practicing medicine and his educational background provide him with the qualifications and skills necessary to serve as a member of our board of directors.

Thilo Schroeder, Ph.D. has served as a member of our board of directors since March 2018. Since 2012, Dr. Schroeder has been a Partner at Nextech Invest Ltd., or Nextech, a venture capital fund focused on investing in oncology companies. Since January 2018, Dr. Schroeder has served as a member of the board of directors of IDEAYA Biosciences, Inc., an oncology-focused biotechnology company. He also serves as a member of the board of directors of ImaginAB, Inc., an immune-oncology imaging company. Dr. Schroeder also served as a member of the board of directors of Blueprint Medicines Corp., a biopharmaceutical company, from 2014 to May 2015. Prior to joining Nextech in 2012, Dr. Schroeder worked in research specializing on the development of Designed Ankyrin Repeat Proteins (DARPins) as specific protein inhibitors from 2007 to 2012. Dr. Schroeder received a B.S. in Biology from the Technical University of Darmstadt in Germany, an M.S. in Biotechnology from the École de Supérieure de Biotechnologie de Strasbourg in France, and a Ph.D. in Biochemistry from the University of Zurich in Switzerland. We believe that Dr. Schroeder's educational background, his experience as a board member of biotechnology and pharmaceutical companies, and his experience as an investor in life sciences companies provide him with the qualifications and skills necessary to serve as a member of our board of directors.

Barbara Weber, M.D. has served as a member of our board of directors since April 2018. Since September 2017, Dr. Weber has served as the President and Chief Executive Officer of Tango Therapeutics, Inc., a biotechnology company. Dr. Weber has been a Venture Partner at Third Rock Ventures since March 2015 and from April 2015 to September 2017 she served as Interim Chief Executive Officer at Neon Therapeutics, Inc., a biotechnology company. From 2009 to February 2015, Dr. Weber served as Senior Vice President, Oncology Translation Medicine at Novartis. Dr. Weber received a B.S. in Chemistry from the University of Washington and an M.D. from the University of Washington School of Medicine and was a resident in internal medicine at Yale University. We believe that Dr. Weber's experience as an officer and director of other biotechnology companies and her educational background provide her with the qualifications and skills necessary to serve as a member of our board of directors.

Board composition

Classified board of directors

In accordance with our amended and restated certificate of incorporation, our board of directors is divided into three classes with staggered, three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election.

Our directors are divided among the three classes as follows:

- the Class I directors are Dr. Lasky, Mr. Exter and Ms. Anderson, and their terms will expire at the annual meeting of stockholders to be held in 2021;
- the Class II directors are Dr. Schroeder and Dr. Miller, and their terms will expire at the annual meeting of stockholders to be held in 2022; and
- the Class III directors are Dr. Weber, Mr. Boris and Dr. Goldsmith, and their terms will expire at the annual meeting of stockholders to be held in 2023.

Our amended and restated certificate of incorporation provides that the authorized number of directors may be changed only by resolution of the board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control of our company.

Leadership structure of the board

Our amended and restated bylaws and corporate governance guidelines provide our board of directors with flexibility to combine or separate the positions of chair of the board of directors and Chief Executive Officer and to implement a lead director in accordance with its determination that utilizing one or the other structure would be in the best interests of our company. Dr. Goldsmith currently serves as the chair of the board of directors and Mr. Borisy currently serves as the lead independent director of the board. In his role as lead independent director, Mr. Borisy presides over the executive sessions of the board of directors and acts as a liaison between management and the board of directors.

Our board of directors has concluded that our current leadership structure is appropriate at this time. However, our board of directors will continue to periodically review our leadership structure and may make such changes in the future as it deems appropriate.

Role of board in risk oversight process

Risk assessment and oversight are an integral part of our governance and management processes. Our board of directors encourages management to promote a culture that incorporates risk management into our corporate strategy and day-to-day business operations. Management discusses strategic and operational risks at regular management meetings, and conducts specific strategic planning and review sessions during the year that include a focused discussion and analysis of the risks facing us. Throughout the year, senior management reviews these risks with the board of directors at regular board meetings as part of management presentations that focus on particular business functions, operations or strategies, and presents the steps taken by management to mitigate or eliminate such risks.

Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. While our board of directors is responsible for monitoring and assessing strategic risk exposure, our audit committee is responsible for overseeing our major financial risk exposures and the steps our management has taken to monitor and control these exposures. The audit committee also monitors compliance with legal and regulatory requirements and considers and approves or disapproves any related person transactions. Our nominating and corporate governance committee monitors the effectiveness of our corporate governance guidelines. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

Board committees

Audit committee

Our audit committee oversees our corporate accounting and financial reporting process. Among other matters, the audit committee:

- appoints our independent registered public accounting firm;
- evaluates the independent registered public accounting firm's qualifications, independence and performance;
- determines the terms of engagement of the independent registered public accounting firm;
- reviews and approves the scope of the annual audit and the audit fee;
- discusses with management and the independent registered public accounting firm the results of the annual audit and the review of our quarterly financial statements;
- approves the retention of the independent registered public accounting firm to perform any proposed permissible non-audit services;
- monitors the rotation of partners of the independent registered public accounting firm on our engagement team in accordance with requirements established by the SEC;
- is responsible for reviewing our audited consolidated financial statements and our management's discussion and analysis of financial condition and results of operations to be included in our annual and quarterly reports to be filed with the SEC;

- reviews our critical accounting policies and estimates;
- reviews all related party transactions on an ongoing basis;
- establishes procedures for the receipt, retention and treatment of complaints received by us regarding accounting, internal controls or auditing matters;
- periodically reviews and assesses treasury functions including cash management process;
- discusses on a periodic basis, or as appropriate, with management, our policies and procedures with respect to risk assessment; and
- investigates any matters received, and reports to the Board periodically, with respect to ethics issues, complaints and associated investigations; and
- reviews the audit committee charter and the committee's performance at least annually.

The current members of our audit committee are Dr. Weber, Dr. Schroeder and Mr. Exter. Dr. Weber serves as the chair of the committee. All members of our audit committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and the Nasdaq Global Select Market. Our board of directors has determined that Dr. Weber is an audit committee financial expert as defined under the applicable rules of the SEC and has the requisite financial sophistication as defined under the applicable rules and regulations of the Nasdaq Global Select Market. Under the rules of the SEC, members of the audit committee must also meet heightened independence standards. Our board of directors has determined that Dr. Weber and Dr. Schroeder are "independent" for audit committee purposes as that term is defined in the applicable rules of the SEC and the Nasdaq Global Select Market. Mr. Exter does not meet the heightened independence criteria set forth in such rules, but an applicable exemption under the Nasdaq rules permits him to continue to serve on the committee for a transition period following the consummation of the IPO in February 2020. The audit committee operates under a written charter that satisfies the applicable standards of the SEC and the Nasdaq Global Select Market.

Compensation committee

Our compensation committee oversees policies relating to compensation and benefits of our officers and employees. Among other things, the compensation committee:

- reviews and recommends corporate goals and objectives relevant to compensation of our executive officers;
- evaluates the performance of our executive officers (other than our Chief Executive Officer), including in light of those goals and objectives, and approves the compensation of these officers based on such evaluations;
- reviews and approves or makes recommendations to our board of directors regarding the issuance of stock options and other awards under our stock plans to our executive officers, other than our Chief Executive Officer;
- reviews the performance of our Chief Executive Officer and makes recommendations to our board of directors with respect to his compensation and our board of directors retains the authority to make compensation decisions relative to our Chief Executive Officer;
- evaluates compliance with applicable compensation rules, regulations and guidelines and other law, as applicable; and
- periodically reviews the performance of the compensation committee and its members, including compliance by the compensation committee.

The current members of our compensation committee are Ms. Anderson, Mr. Borisy and Dr. Miller. Ms. Anderson serves as the chair of the committee. Each of the members of our compensation committee is independent under the applicable rules and regulations of the Nasdaq Global Select Market and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act. The compensation committee operates under a written charter that satisfies the applicable standards of the SEC and the Nasdaq Global Select Market.

Nominating and corporate governance committee

The nominating and corporate governance committee is responsible for making recommendations to our board of directors regarding candidates for directorships and the size and composition of our board of directors. In addition, the nominating and corporate governance committee is responsible for overseeing our corporate governance policies and reporting and making recommendations to our board of directors concerning governance matters. The current members of our nominating and corporate governance committee are Mr. Borisy, Dr. Lasky and Dr. Miller. Mr. Borisy serves as the chair of the committee. Each of the members of our nominating and corporate governance committee is an independent director under the applicable rules and regulations of the Nasdaq Global Select Market relating to nominating and corporate governance committee independence. The nominating and corporate governance committee operates under a written charter that satisfies the applicable standards of the SEC and the Nasdaq Global Select Market.

Compensation committee interlocks and insider participation

During the year ended December 31, 2019, our compensation committee consisted of Ms. Anderson, Mr. Borisy and Dr. Miller. None of the members of our compensation committee during 2019 nor any of the current members of our compensation committee has at any time been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers on our board of directors or compensation committee. For a description of transactions between us and members of our compensation committee and affiliates of such members, please see "Certain relationships and related party transactions."

Board diversity

Our nominating and corporate governance committee is responsible for reviewing with the board of directors, on an annual basis, the appropriate characteristics, skills and experience required for the board of directors as a whole and its individual members. In evaluating the suitability of individual candidates (both new candidates and current members), the nominating and corporate governance committee, in recommending candidates for election, and the board of directors, in approving (and, in the case of vacancies, appointing) such candidates, may take into account many factors, including but not limited to the following:

- personal and professional integrity;
- ethics and values;
- experience as a board member of other companies, including service on the board of directors of another publicly held company;
- experience in the life sciences industry;
- experience as a board member or executive officer of another publicly held company;
- diversity of expertise and experience in substantive matters pertaining to our business relative to other board members;
- conflicts of interest; and
- business judgment.

Currently, our board of directors evaluates each individual in the context of the board of directors as a whole, with the objective of assembling a group that can best exercise oversight of management and the business and effectively represent stockholder interests through the exercise of sound business judgment using its diversity and depth of experience in these various areas.

Code of business conduct and ethics

We have adopted a code of business conduct and ethics that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer and principal accounting officer. The code of business conduct and ethics is posted on www.revmed.com. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for our principal executive officer, principal financial officer, principal accounting officer or persons performing similar functions, or any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Limitation of liability and indemnification matters

Our amended and restated certificate of incorporation, which became effective in February 2020, contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which the director derived an improper personal benefit.

Each of our amended and restated certificate of incorporation and amended and restated bylaws provide that we are required to indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law. Our amended and restated bylaws also obligate us to advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under Delaware law. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our board of directors. With specified exceptions, these agreements provide for indemnification for related expenses including, among other things, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions that will be included in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against our directors and officers for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and our stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage.

Item 11. Executive Compensation.

This section discusses the material components of the executive compensation program for our executive officers who are named in the "2019 summary compensation table" below. In 2019, our "named executive officers" and their positions were as follows:

- Mark A. Goldsmith, M.D., Ph.D., our President and Chief Executive Officer;
- Steve Kelsey, M.D., our President, Research and Development; and
- Margaret Horn, J.D., our Chief Operating Officer and General Counsel.

On February 7, 2020, the Company effected a 1-for-4.8661 reverse stock split of the Company's common stock. All issued and outstanding common stock, options to purchase common stock and per share amounts described in this section have been retroactively adjusted to give effect to the reverse stock split for all periods presented.

Summary compensation table

| Name and principal position | Year | Salary | Bonus | Option awards ⁽¹⁾ | Non-equity incentive plan compensation ⁽²⁾ | All other compensation ⁽³⁾ | Total |
|---|------|------------|-------|------------------------------|---|---------------------------------------|--------------|
| Mark A. Goldsmith, M.D., Ph.D. | 2019 | \$ 504,300 | \$ — | \$ 3,808,974 | \$ 260,980 | \$ 2,000 | \$ 4,576,254 |
| <i>President and Chief Executive Officer</i> | 2018 | 489,567 | — | 582,915 | 232,500 | — | 1,304,982 |
| Steve Kelsey, M.D. <i>President, Research and Development</i> | 2019 | 424,350 | — | 1,298,253 | 170,800 | 2,000 | 1,895,403 |
| | 2018 | 405,000 | — | 81,934 | 152,150 | — | 639,084 |
| Margaret Horn, J.D. <i>Chief Operating Officer and General Counsel</i> | 2019 | 384,375 | — | 1,662,587 | 166,150 | 2,000 | 2,215,112 |
| | 2018 | 347,500 | — | 31,323 | 140,000 | — | 518,823 |

(1) Amounts reported represent the aggregate grant date fair value of stock options granted to our named executive officers computed in accordance with FASB ASC Topic 718. Assumptions used in the calculation of these amounts are included in Note 12 to our consolidated financial statements included in this Annual Report on Form 10-K. Our named executive officers will only realize compensation to the extent the trading price of our common stock is greater than the exercise price of such stock options.

(2) Represents payments earned by our named executive officers upon the achievement of certain company performance objectives approved by our board of directors for fiscal 2019. Please see the description of the annual bonus program under "2019 bonuses" below.

(3) Represents Company matching contributions under our 401(k) plan.

Narrative to the summary compensation table

2019 salaries

Our named executive officers each receive a base salary to compensate them for services rendered to our company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities.

For fiscal year 2019, Dr. Goldsmith's annual base salary was \$506,760, Dr. Kelsey's annual base salary was \$426,420, and Ms. Horn's annual base salary was \$386,250. The annual base salaries of our named executive officers were increased 3% from their respective levels in 2018, effective March 1, 2019.

In connection with our IPO, our board of directors approved increasing the annual base salaries of our named executive officers to the following amounts, in each case, effective as of February 12, 2020, the date of the effectiveness of the registration statement of the IPO: Dr. Goldsmith: \$560,000; Dr. Kelsey: \$469,000; and Ms. Horn: \$469,000.

2019 bonuses

We maintain an annual performance-based cash bonus program in which each of our named executive officers participated in 2019. Each named executive officer's target bonus is expressed as a percentage of base salary which can be achieved by meeting corporate goals at target level. The 2019 annual bonuses for Dr. Goldsmith, Dr. Kelsey and Ms. Horn were targeted at 45%, 35% and 35% of their respective base salaries, which levels remain unchanged from 2018.

For 2019, our named executive officers were eligible to earn annual cash bonuses based on the achievement of certain corporate performance objectives approved by the compensation committee and the board of directors as well as individual achievement, with corporate achievement weighted 90% and the individual achievement weighted 10%.

In March 2020, the board of directors approved overall achievement of our 2019 corporate goals at 115% and individual achievement at 115%, 115% and 200%, for Dr. Goldsmith, Dr. Kelsey and Ms. Horn, respectively. Based on these levels of achievement, Dr. Goldsmith, Dr. Kelsey and Ms. Horn were paid annual bonuses at 115%, 115% and 123.5% of their targeted amounts, respectively. The actual annual cash bonuses awarded to each named executive officer for 2019 performance are set forth above in the Summary compensation table in the column titled "Non-Equity Incentive Plan Compensation."

In connection with the IPO, our board of directors approved increasing the annual target bonuses of our named executive officers to the following amounts as a percentage of base salary, in each case, effective as of February 12, 2020, the date of the effectiveness of the registration statement of the IPO: Dr. Goldsmith: 50%; Dr. Kelsey: 40%; and Ms. Horn: 40%.

Equity compensation

We previously maintained the 2014 Equity Incentive Plan, pursuant to which we granted equity awards to certain of our service providers. In connection with Ms. Horn's promotion from Executive Vice President and General Counsel to Chief Operating Officer and General Counsel, our board approved, effective March 2019, the grant of an option to purchase 102,751 shares of our common stock, which vests as to 1/48th of the shares subject to the option on each monthly anniversary of January 1, 2018, subject to Ms. Horn's continued service on each applicable vesting date. Each option is exercisable immediately, in whole or in part, provided that shares acquired upon exercise of any unvested portion are subject to a right of repurchase by the Company.

In March 2019, we granted to Dr. Goldsmith, Dr. Kelsey and Ms. Horn options to purchase 397,964, 123,301 and 123,302 shares of our common stock, respectively, each of which vests with respect to 1/48th of the shares subject to the option on each monthly anniversary of March 13, 2019, subject to the executive's continued service on each applicable vesting date. In addition, in August 2019, we granted to Dr. Goldsmith, Dr. Kelsey and Ms. Horn options to purchase 583,465, 206,740 and 224,800 shares of our common stock, respectively, each of which vests with respect to 1/48th of the shares subject to the option on each monthly anniversary of August 9, 2019, subject to the executive's continued service to the Company on each applicable vesting date.

Each option is exercisable immediately, in whole or in part, provided that shares acquired upon exercise of any unvested portion are subject to a right of repurchase by the Company.

We have adopted the 2020 Incentive Award Plan, or the 2020 Plan, in order to facilitate the grant of cash and equity incentives to directors, employees (including our named executive officers) and consultants of our company and certain of its affiliates and to enable us to obtain and retain services of these individuals, which is essential to our long-term success. The 2020 Plan became effective on the day prior to the date the registration statement relating to our IPO became effective.

Effective February 12, 2020, the date of the effectiveness of the registration statement of the IPO our board of directors approved the award of stock options under the 2020 Plan to our named executive officers to purchase shares of common stock in the following amounts: Dr. Goldsmith: 128,439 shares; Dr. Kelsey: 47,060 shares; and Ms. Horn: 47,060 shares. The stock options have a per share exercise price of \$17.00 and will vest in 48 equal monthly installments following the effective date of the grant, subject to the continued employment of the applicable named executive officer.

Other elements of compensation

Retirement plans

We maintain a 401(k) retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same terms as other full-time employees. We introduced a discretionary company contribution match for 2019 equal to 50% of participant contributions, subject to a maximum company match of \$2,000. We did not match contributions made by participants prior to 2019. We believe that providing a vehicle for tax-deferred retirement savings through our 401(k) plan adds to the overall desirability of our executive compensation package and further incentivizes our employees, including our named executive officers, in accordance with our compensation policies.

Employee benefits and perquisites

All of our full-time employees, including our named executive officers, are eligible to participate in our health and welfare plans, including medical, dental and vision benefits, a cafeteria plan, short-term and long-term disability insurance, life insurance and pre-tax transit spending accounts. We do not currently provide any perquisites or other personal benefits to our named executive officers.

Outstanding equity awards as of December 31, 2019

The following table provides information about outstanding equity awards held by each of our named executive officers at December 31, 2019. All awards were granted under our 2014 Equity Incentive Plan.

| Name and principal position | Grant date | Vesting commencement date | Option awards | | | | Stock awards | |
|---|------------|---------------------------|--|--|----------------------------|------------------------|---|---|
| | | | Number of securities underlying exercisable options ⁽¹⁾ | Number of securities underlying unexercisable options ⁽¹⁾ | Option exercise price (\$) | Option expiration date | Number of shares or units of stock that have not vested | Market value of shares or units of stock that have not vested (\$) ⁽²⁾ |
| Mark A. Goldsmith, M.D., Ph.D. President and Chief Executive Officer | 3/21/2017 | 12/1/2016 ⁽³⁾ | 154,127 | 51,376 | \$ 0.49 | 3/20/2027 | — | — |
| | 2/12/2018 | 3/1/2018 ⁽³⁾ | 97,779 | 125,717 | \$ 0.54 | 2/11/2028 | — | — |
| | 4/20/2018 | 3/29/2018 ⁽³⁾ | 67,430 | 86,697 | \$ 1.12 | 4/19/2028 | — | — |
| | 3/13/2019 | 3/13/2019 ⁽³⁾ | 74,617 | 323,347 | \$ 4.09 | 3/12/2029 | — | — |
| | 8/9/2019 | 8/9/2019 ⁽³⁾ | 48,622 | 534,843 | \$ 4.73 | 8/8/2029 | — | — |
| Steve Kelsey, M.D. President, Research and Development | 3/21/2017 | 3/20/2017 ⁽⁴⁾ | — | — | \$ 0.00 | — | 64,220 | 1,091,740 |
| | 2/12/2018 | 3/1/2018 ⁽⁴⁾ | — | — | \$ 0.00 | — | 35,160 | 597,720 |
| | 3/13/2019 | 3/13/2019 ⁽³⁾ | 23,119 | 100,182 | \$ 4.09 | 3/12/2029 | — | — |
| | 8/9/2019 | 8/9/2019 ⁽³⁾ | 17,228 | 189,512 | \$ 4.73 | 8/8/2029 | — | — |
| Margaret Horn, J.D. Chief Operating Officer and General Counsel | 3/21/2017 | 3/20/2017 ⁽⁴⁾ | — | — | \$ 0.00 | — | 5,138 | 87,346 |
| | 6/7/2017 | 6/7/2017 ⁽⁴⁾ | — | — | \$ 0.00 | — | 11,560 | 196,520 |
| | 2/12/2018 | 3/1/2018 ⁽³⁾ | — | 13,441 | \$ 0.54 | 2/11/2028 | — | — |
| | 3/13/2019 | 1/1/2018 ⁽³⁾ | 49,234 | 53,517 | \$ 4.09 | 3/12/2029 | — | — |
| | 3/13/2019 | 3/13/2019 ⁽³⁾ | 23,119 | 100,183 | \$ 4.09 | 3/12/2029 | — | — |
| | 8/9/2019 | 8/9/2019 ⁽³⁾ | 18,733 | 206,067 | \$ 4.73 | 8/8/2029 | — | — |

(1) Each stock option permits early exercise of the unvested portion of the award in exchange for restricted stock and was, therefore, fully exercisable as of December 31, 2019. The number of shares shown as exercisable and unexercisable reflect the number of shares vested and unvested, respectively, as of December 31, 2019.

(2) The market value of our common stock is based upon the IPO price of \$17.00 per share.

(3) 1/48th of the shares originally subject to the option vest monthly measured from the vesting commencement date, subject to continued service on the applicable vesting date.

(4) Represents shares of restricted stock acquired upon exercise of an option prior to vesting. The shares of restricted stock are subject to repurchase by us at the original exercise price upon a termination of service prior to vesting. The unvested shares reported vest in equal monthly installments through the fourth anniversary of the vesting commencement date subject to continued service through each applicable vesting date.

Executive compensation arrangements

Offer letters. We previously entered into offer letter agreements with each of our named executive officers in connection with his or her employment with us. These agreements set forth the terms and conditions of employment of each named executive officer, including initial base salary, target bonus opportunity and equity grants and employee benefits eligibility.

Change in control separation benefits plan. In September 2017, our board of directors adopted a Change in Control Separation Benefits Plan that provides severance benefits to employees of the Company, including our named executive officers, in the event of a termination by the Company without “cause” or a resignation for “good reason” (each as defined in the plan), in each case, within the period commencing three months prior to and ending 12 months following a change in control of the Company (such termination, a “qualifying termination”). In the event of a qualifying termination, our named executive officers would be eligible to receive (i) a cash lump sum payment equal to (A) 0.75x (or 1x, in the case of our Chief Executive Officer) his or her annual base salary plus (B) his or her annual target bonus, in each case, at the greater of the rate immediately in effect as of the qualifying termination or the change in control; (ii) payment or reimbursement of continued healthcare premiums pursuant to COBRA for up to the end of the ninth month (or the twelfth month, in the case of our Chief Executive Officer) following termination; and (iii) full accelerated vesting of any equity awards outstanding as of the date of the qualifying termination. All such severance benefits are subject to the participant signing a general release of all claims against the Company and its affiliates that becomes effective and irrevocable within 60 days after the termination of employment in a form reasonably acceptable to the Company.

In December 2019, our board of directors approved the amendment and restatement of the Change in Control Separation Benefits Plan, pursuant to which our named executive officers are no longer eligible to participate in the plan.

New employment agreements. In connection with our IPO, we have entered into new employment agreements with our named executive officers, which supersede in their entirety their original offer letters and the terms of the Change in Control Separation Benefits Plan.

Pursuant to the terms of the new employment agreements, in the event the named executive officer is terminated without Cause or resigns for Good Reason (each, as defined in the employment agreements), in each case, other than during the period commencing three months prior to and ending 18 months following a change in control, the named executive officer will be eligible to receive: (i) a lump sum cash payment equal to 1x, in the case of our Chief Executive Officer or 0.75x, in the case of our other named executive officers, the sum of the executive's annual base salary and target annual bonus; (ii) payment or reimbursement of COBRA premiums for 12 months, in the case of our Chief Executive Officer or nine months, in the case of our other named executive officers; and (iii) at the discretion of the board of directors or the compensation committee, 12 months' accelerated vesting of equity awards, in the case of our Chief Executive Officer or 9 months' accelerated vesting of equity awards, in the case of our other named executive officers.

In addition, in the event the named executive officer is terminated without Cause or resigns for Good Reason, in each case, during the period commencing three months prior to and ending 18 months following a change in control, the named executive officer will be eligible to receive: (i) a lump sum cash payment equal to 1.5x, in the case of our Chief Executive Officer, or 1x, in the case of our other named executive officers, the sum of the executive's annual base salary and target annual bonus; (ii) payment or reimbursement of COBRA premiums for 18 months, in the case of our Chief Executive Officer, or 12 months, in the case of our other named executive officers; and (iii) full accelerated vesting of all equity awards. All severance payments and benefits under the employment agreements are subject to the executive's execution of a release of claims against us.

Director compensation

We previously entered into board member letters with each of Ms. Anderson, Dr. Miller and Dr. Weber, who were during 2019 non-employee directors not affiliated with one of our principal investors, whom we refer to as our non-employee, non-investor directors. Pursuant to these letters, each of Ms. Anderson, Dr. Miller and Dr. Weber were eligible to receive:

- an annual board retainer of \$30,000;
- in connection with his or her initial appointment to our board of directors, an option to purchase 30,825 shares of our common stock, which vests as to 25% of the shares subject to the option on the first anniversary of the grant date and as to 6.25% of the shares subject to the option on each quarterly anniversary thereafter, subject to continued service; and
- following the second anniversary of service, in the discretion of the board of directors, additional annual grants of an option to purchase 6,165 shares of our common stock, which vests as to 1/12th of the shares on each monthly anniversary of the grant date, subject to continued service.

Mr. Borisy also became a non-employee, non-investor director in July 2019. Our directors who are either our employees, including Dr. Goldsmith, or are affiliated with one of our principal investors did not receive any compensation for their service as directors in 2019. However, we reimburse our non-employee directors for reasonable out of pocket travel or other expenses for Company business as approved by the Company. Dr. Goldsmith's compensation as our President and Chief Executive Officer is set forth in the summary compensation table above.

In March 2019, our board granted to Ms. Anderson an option to purchase 6,165 shares, which vests as to 1/12th of the shares subject to the option on each monthly anniversary thereafter, subject to continued service to the Company.

In June 2019, following a market assessment of the compensation paid to our non-employee, non-investor directors, our board approved increasing the initial option grant to 54,663 shares and the annual option grant to 14,385 shares, with the initial option grant vesting as to 25% of the shares subject to the option on the first anniversary of the grant date and as to 1/48th of the shares subject to the option on each monthly anniversary thereafter, subject to continued service to the Company, and the annual option grant continuing to vest as to 1/12th of the shares on each monthly anniversary of the grant date, subject to continued service to the Company.

In July 2019, in connection with his change in status to a non-employee, non-investor director, our board granted to Mr. Borisy an initial option grant to purchase 54,663 shares and an annual option grant to purchase 14,385 shares, which vest as described above.

In August 2019, our board granted additional options to each of our non-employee, non-investor directors. Drs. Miller and Weber each received an option to purchase 14,385 shares of common stock, which vest as to 1/12th of the shares on each monthly anniversary of September 27, 2019 and April 12, 2020, respectively, subject to continued service to the Company. In addition, Ms. Anderson was granted an option to purchase 18,750 shares of our common stock, Mr. Borisy was granted an option to purchase 3,884 shares of our common stock, and each of Drs. Miller and Weber were granted an additional option to purchase 17,997 shares of common stock, each of which were intended to position the director's compensation closer to market. Ms. Anderson's option vests as to 1/12th of the shares subject to the option on each monthly anniversary of the grant date, Mr. Borisy's option vests as to 1/48th of the shares subject to the option on each monthly anniversary of the grant date, Dr. Miller's option for 17,997 shares vests as to 1/24th of the shares on each monthly anniversary of the grant date, and Dr. Weber's option for 17,997 shares vests as to 1/30th of the shares on each monthly anniversary of the grant date, in each case, subject to continued service.

Each of the options we granted to our non-employee, non-investor directors in 2019 are exercisable immediately, in whole or in part, provided that shares acquired upon exercise of any unvested portion are subject to a right of repurchase by the Company.

2019 director compensation table

The following table sets forth all of the compensation awarded to or earned by or paid to non-employee directors during 2019.

| Name | Fees earned or paid in cash | Option awards(1) | Total |
|--------------------------|-----------------------------------|---------------------|------------|
| Elizabeth McKee Anderson | \$ 30,000 | \$ 101,869 | \$ 131,869 |
| Alexis Borisy | 15,000 | 328,396 | 343,396 |
| Neil Exter | — | — | — |
| Laurence Lasky, Ph.D. | — | — | — |
| Vincent Miller, M.D. | 30,000 | 142,514 | 172,514 |
| Thilo Schroeder, Ph.D. | — | — | — |
| Barbara Weber, M.D. | 30,000 | 144,706 | 174,706 |

(1) Amounts reported represent the aggregate grant date fair value of stock options granted to our non-employee directors during 2019 under our 2014 Equity Incentive Plan, computed in accordance with ASC Topic 718. Assumptions used in the calculation of these amounts are included in Note 12 to our consolidated financial statements included in this Annual Report on Form 10-K. As of December 31, 2019, our non-employee directors held the following outstanding options and stock awards:

| Name | Options Outstanding at Fiscal Year End | Unvested Restricted Shares Outstanding at Fiscal Year End |
|--------------------------|---|--|
| Elizabeth McKee Anderson | 31,080 | — |
| Alexis Borisy | 72,932 | — |
| Neil Exter | — | — |
| Laurence Lasky, Ph.D. | — | — |
| Vincent Miller, M.D. | 32,382 | 13,486 |
| Thilo Schroeder, Ph.D. | — | — |
| Barbara Weber, M.D. | 63,207 | — |

We have adopted and implemented a compensation program for our non-employee directors, or the Director Compensation Program, which became effective in connection with the consummation of our IPO. The Director Compensation Program supersedes the prior arrangements with our non-employee, non-investor directors and applies broadly to all of our non-employee directors. Pursuant to the Director Compensation Program, our non-employee directors receive cash compensation as follows:

- Each non-employee director receives an annual cash retainer in the amount of \$36,000 per year.
- A lead independent director receives an additional annual cash retainer in the amount of \$25,000 per year, and a non-executive chair receives an additional annual cash retainer in the amount of \$30,000 per year.
- The chairperson of the audit committee receives additional annual cash compensation in the amount of \$15,000 per year for such chairperson's service on the audit committee. Each non-chairperson member of the audit committee receives additional annual cash compensation in the amount of \$7,500 per year for such member's service on the audit committee.

- The chairperson of the compensation committee receives additional annual cash compensation in the amount of \$10,000 per year for such chairperson's service on the compensation committee. Each non-chairperson member of the compensation committee receives additional annual cash compensation in the amount of \$5,000 per year for such member's service on the compensation committee.
- The chairperson of the nominating and corporate governance committee receives additional annual cash compensation in the amount of \$8,000 per year for such chairperson's service on the nominating and corporate governance committee. Each non-chairperson member of the nominating and corporate governance committee receives additional annual cash compensation in the amount of \$4,000 per year for such member's service on the nominating and corporate governance committee.

Under the Director Compensation Program, each non-employee director will automatically be granted an option to purchase 36,168 shares of our common stock upon the director's initial appointment or election to our board of directors, referred to as the Initial Grant, and each non-employee director who has been serving on the board for at least four months will automatically be granted an option to purchase 18,084 shares of our common stock automatically on the date of each annual stockholder's meeting, referred to as the Annual Grant. The Initial Grant will vest in substantially equal monthly installments for three years from the date of grant, subject to continued service through each applicable vesting date. The Annual Grant will vest on the earlier of the first anniversary of the date of grant or the date of the next annual stockholder's meeting to the extent unvested as of such date, subject to continued service through each applicable vesting date.

Effective February 12, 2020, the date of the effectiveness of the registration statement of the IPO, our board of directors approved the award of an option to purchase 36,168 shares of our common stock under the 2020 Plan to each of Mr. Exter and Dr. Lasky. The options have a per share exercise price of \$17.00 and will vest in 36 equal monthly installments following the effective date of grant, subject to the grantee's continued service as a non-employee director.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Equity Compensation Plan Information

The following table provides information on our equity compensation plans as of December 31, 2019. Information is included for equity compensation plans approved by our stockholders. We do not have any equity compensation plans not approved by our stockholders.

| Plan Category | Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights | Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights | Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans |
|---|---|---|--|
| Equity compensation plans approved by security holders(1) | 4,918,299 | \$ 3.59 | 803,652 |

(1) Consists of options outstanding and available for issuance under our 2015 Equity Incentive Plan

Security Ownership of Certain Beneficial Owners and Management

The following table sets forth information relating to the beneficial ownership of our common stock as of February 29, 2020, by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our outstanding shares of common stock;
- each of our current directors;
- each of our named executive officers; and
- all current directors and executive officers as a group.

The number of shares beneficially owned by each entity, person, director or executive officer is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days of February 29, 2020 through the exercise of any stock option, warrants or other rights. Except as otherwise indicated, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock held by that person.

The percentage of shares beneficially owned is computed on the basis of 58,995,971 shares of our common stock outstanding as of February 29, 2020. Shares of our common stock that a person has the right to acquire within 60 days of February 29, 2020 are deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers as a group. Unless otherwise indicated below, the address for each beneficial owner listed is c/o Revolution Medicines, Inc., 700 Saginaw Drive, Redwood City, California 94063.

| Name of beneficial owner | Number of outstanding shares beneficially owned | Number of shares exercisable within 60 days | Number of shares beneficially owned | Percentage of beneficial ownership |
|--|---|---|-------------------------------------|------------------------------------|
| 5% and Greater Stockholders: | | | | |
| Entities affiliated with Third Rock Ventures ⁽¹⁾ | 12,353,248 | — | 12,353,248 | 20.9% |
| Entities affiliated with The Column Group ⁽²⁾ | 7,977,384 | — | 7,977,384 | 13.5% |
| Sanofi Research Invest, LLC ⁽³⁾ | 3,363,050 | — | 3,363,050 | 5.7% |
| Boxer Capital, LLC ⁽⁴⁾ | 3,295,178 | — | 3,295,178 | 5.6% |
| Cormorant Asset Management, LP ⁽⁵⁾ | 3,245,177 | — | 3,245,177 | 5.5% |
| Name of beneficial owner | | | | |
| Named Executive Officers and Directors: | | | | |
| Mark A. Goldsmith, M.D., Ph.D. ⁽⁶⁾ | 637,060 | 1,590,456 | 2,227,516 | 3.7% |
| Steve Kelsey, M.D., FRCR, FRCRPath ⁽⁷⁾ | 268,009 | 332,001 | 600,010 | 1.0% |
| Margaret Horn, J.D. ⁽⁸⁾ | 133,756 | 466,254 | 600,010 | 1.0% |
| Elizabeth McKee Anderson ⁽⁹⁾ | 36,990 | 31,080 | 68,070 | * |
| Alexis Borisoff ⁽¹⁰⁾ | — | 72,932 | 72,932 | * |
| Neil Exter ⁽¹¹⁾ | 12,353,248 | 2,009 | 12,355,257 | 20.9% |
| Larry Lasky, Ph.D. ⁽¹²⁾ | — | 2,009 | 2,009 | * |
| Vincent A. Miller, M.D. ⁽¹³⁾ | 30,825 | 32,382 | 63,207 | * |
| Thilo Schroeder, Ph.D. | — | — | — | * |
| Barbara Weber, M.D. ⁽¹⁴⁾ | — | 63,207 | 63,207 | * |
| All current directors and executive officers as a group (10 persons) | 13,459,888 | 2,592,330 | 16,052,218 | 26.1% |

* Indicates beneficial ownership of less than 1% of the total outstanding common stock.

(1) Consists of (i) 9,024,031 shares of common stock directly held by Third Rock Ventures III, L.P., or TRV III, (ii) 1,419,900 shares of common stock directly held by Third Rock Ventures IV, L.P., or TRV IV, and (iii) 1,909,317 shares of common stock directly held by Third Rock Ventures II, L.P., or TRV II. Each of Third Rock Ventures II GP, LP, or TRV II GP, the general partner of TRV II, and Third Rock Ventures GP II, LLC, or TRV II LLC, the general partner of TRV II GP, and Mark Levin, Kevin Starr and Robert Tepper, the managers of TRV II LLC, may be deemed to have voting and investment power over the shares held of record by TRV II; each of Third Rock Ventures III GP, LP, or TRV III GP, the general partner of TRV III, and Third Rock Ventures GP III, LLC, or TRV III LLC, the general partner of TRV III GP, and Mark Levin, Kevin Starr and Robert Tepper, the managers of TRV III LLC, may be deemed to have voting and investment power over the shares held of record by TRV III; the general partner of TRV IV is Third Rock Ventures GP IV, L.P., or TRV IV GP and the general partner of TRV IV GP is TRV GP IV, LLC, or TRV IV LLC; Abbie Celniker, Ph.D., Robert Tepper, M.D., Craig Mui and Cary Pfeffer, M.D. are the managing members of TRV IV LLC and collectively make voting and investment decisions with respect to the shares held by TRV LP. The address for each of these persons and entities is 29 Newbury Street, Suite 401, Boston, MA 02116.

(2) Consists of (i) 3,103,049 shares of common stock directly held by The Column Group III, LP, or TCG III, (ii) 3,504,313 shares of common stock directly held by The Column Group III-A, LP, or TCG III-A, (iii) 685,011 shares of common stock directly held by Ponoi Capital, LP, or Ponoi, (iv) 685,011 shares of common stock directly held by Ponoi Capital II, LP, or Ponoi II. David Goeddel, Ph.D., Peter Svennilson and Tim Kutzkey, Ph.D., are the managing partners of (i) The Column Group III GP, LP, which is the general partner of TCG III and TCG III-A, (ii) Ponoi Management, LLC, which is the general partner of Ponoi, and (iii) Ponoi II Management, LLC, which is the general partner of Ponoi II. Dr. Goeddel, Mr. Svennilson and Dr. Kutzkey share voting and investment control over shares held by TCG III, TCG III-A, Ponoi and Ponoi II. Dr. Goeddel, Mr. Svennilson and Dr. Kutzkey disclaim beneficial ownership of all shares above except to the extent of their pecuniary interest therein. The address of the above persons and entities is 1700 Owens Street, Suite 500, San Francisco, California 94158.

(3) Consists of 3,363,050 shares of common stock directly held by Sanofi Research Invest, LLC, a wholly owned indirect subsidiary of Sanofi. Sanofi has the ability to exercise voting and investment power over the shares held by Sanofi Research Invest, LLC. The address for Sanofi Research Invest, LLC is 3711 Kennett Pike, Suite 200, Greenville, DE 19807.

- (4) Based on Amendment No. 1 to a Schedule 13G filed by Boxer Capital, LLC on February 14, 2020 which indicates that (i) Boxer Capital, LLC, Boxer Asset Management Inc. and Joe Lewis have shared dispositive power to 3,259,764 shares of common stock and (ii) MVA Investors, LLC and Aaron Davis have shared dispositive power to 35,414 shares of common stock. The address of the above persons and entities is 11682 El Camino Real, Suite 320, San Diego, CA, 92130.
- (5) Based on a Schedule 13G filed by Cormorant Asset Management, LP on February 24, 2020 which indicates that Cormorant Asset Management, LLP and Bihua Chen have shared dispositive power to 3,245,177 shares of common stock, including (i) shared dispositive power with Cormorant Global Healthcare Master Fund, LP and Cormorant Global Healthcare GP, LLC to 1,593,941 shares of common stock and (ii) shared dispositive power with Cormorant Private Healthcare Fund II, LP and Cormorant Private Healthcare GP II, LLC to 1,545,066 shares of common stock. The address of the above person and entities is 200 Clarendon Street, 52nd Floor, Boston, MA, 02116.
- (6) Consists of (i) 143,852 shares of common stock directly held by the Goldsmith Children 2011 Irrevocable Education Trust, (ii) 493,208 shares of common stock directly held by Mark A. Goldsmith and Anne E. Midler 2002 Revocable Living Trust and (iii) 1,590,456 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.
- (7) Consists of (i) 268,009 shares of common stock and (ii) 332,001 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.
- (8) Consists of (i) 10,454 shares of common stock directly held by Ms. Horn, (ii) 123,302 shares of common stock directly held by Margaret A. Horn Revocable Living Trust and (iii) 466,254 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.
- (9) Consists of (i) 36,990 shares of common stock directly held by David W. Anderson 1996 Irrevocable Trust and (ii) 31,080 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.
- (10) Consists of 72,932 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.
- (11) Consists of the shares described in Footnote 1 above to which Mr. Exter disclaims beneficial ownership of all such shares except to the extent of his pecuniary interests therein, and (ii) 2,009 shares in common stock that may be acquired pursuant to the exercise of a stock option within 60 days of February 29, 2020.
- (12) Consists of 2,009 shares of common stock that may be acquired pursuant to the exercise of a stock option within 60 days of February 29, 2020.
- (13) Consists of (i) 30,825 shares of common stock held directly by Dr. Miller and (ii) 32,382 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.
- (14) Consists of 63,207 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days of February 29, 2020.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

In addition to the compensation arrangements, including employment, termination of employment and change in control arrangements, with our directors and executive officers, including those discussed in the sections titled “Management” and “Executive and director compensation,” the following is a description of each transaction since January 1, 2019 in which:

- we have been or are to be a participant;
- the amounts involved exceeded or will exceed \$120,000; and
- any of our directors, executive officers or holders of more than 5% of our capital stock, or an affiliate or immediate family member thereof, had or will have a direct or indirect material interest.

Sales and purchases of securities

Series C preferred stock financing

In June and July 2019, we issued an aggregate of 10,004,514 shares of our Series C Preferred Stock at a price per share of \$10.03 for aggregate proceeds of \$100,287,058.28. The table below sets forth the number of shares of Series C Preferred Stock sold to our directors, executive officers or beneficial owners of more than 5% of a class of our capital stock, or an affiliate or immediate family member thereof:

| Name | Number of shares of Series C preferred stock | Purchase price (\$) |
|--|--|---------------------|
| Entities Affiliated with Third Rock Ventures(1)(2) | 99,758 | \$ 1,000,000.22 |
| Entities Affiliated with The Column Group(3)(4) | 99,758 | \$ 1,000,000.22 |
| Nextech V Oncology S.C.S., SICAV-SIF(5)(6) | 548,674 | \$ 5,500,000.18 |

- (1) (i) Third Rock Ventures III, L.P. purchased 49,879 shares of Series C Preferred Stock for a total purchase price of \$500,001.14 and (ii) Third Rock Ventures IV, L.P. purchased 49,879 shares of Series C Preferred Stock for a total purchase price of \$499,999.08. Entities affiliated with Third Rock Ventures were beneficial owners of (in the aggregate) more than 5% of our capital stock at the time of the Series C Preferred Stock financing.
- (2) Alexis Borisy, who is currently a member of our board of directors and was a member of our board of directors at the time of the Series C Preferred Stock financing, was then an affiliate of Third Rock Ventures.
- (3) (i) The Column Group III, LP purchased 46,850 shares of Series C Preferred Stock for a total purchase price of \$469,634.68 and (ii) The Column Group III-A, LP purchased 52,908 shares of Series C Preferred Stock for a total purchase price of \$530,365.54. Entities affiliated with The Column Group were beneficial owners of (in the aggregate) more than 5% of our capital stock at the time of the Series C Preferred Stock financing.
- (4) Laurence Lasky, Ph.D., who is currently a member of our board of directors and was a member of our board of directors at the time of the Series C Preferred Stock financing, is, and was then, an affiliate of The Column Group.
- (5) Thilo Schroeder, Ph.D., who is currently a member of our board of directors and was a member of our board of directors at the time of the Series C Preferred Stock financing, is, and was then, an affiliate of Nextech V Oncology S.C.S., SICAV-SIF.
- (6) Prior to the Series C Preferred Stock financing, Nextech V Oncology S.C.S., SICAV-SIF was a beneficial owner of more than 5% of our capital stock.

Director and executive officer compensation

Please see “Executive and director compensation” for information regarding the compensation of our directors and executive officers.

Employment agreements

We have entered into employment agreements with our executive officers. For more information regarding these agreements, see “Executive and director compensation—Narrative to the summary compensation table” and “Executive and director compensation—Outstanding equity awards as of December 31, 2019.”

Indemnification agreements and directors’ and officers’ liability insurance

We have entered into indemnification agreements with each of our directors and executive officers. These agreements will require us to, among other things, indemnify each director and executive officer to the fullest extent permitted by Delaware law, including indemnification of expenses such as attorneys’ fees, judgments, penalties, fines and settlement amounts incurred by the director or executive officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person’s services as a director or executive officer. We have obtained an insurance policy that insures our directors and officers against certain liabilities, including liabilities arising under applicable securities laws. For additional information see “Management—Limitation of liability and indemnification matters.”

Investors’ rights agreement

We entered into an amended and restated investors’ rights agreement with the purchasers of our outstanding preferred stock, including entities with which certain of our directors are affiliated. Following the consummation of our IPO, the holders of approximately 39.6 million shares of our common stock, including the shares of common stock issuable upon the conversion of our preferred stock, are entitled to rights with respect to the registration of their shares under the Securities Act. For a more detailed description of these registration rights, see “Description of capital stock—Registration rights.” The amended and restated investors’ rights agreement also provides for a right of first refusal in favor of certain holders of preferred stock with regard to certain issuances of our capital stock. The rights of first refusal do not apply to, and terminated upon the consummation of our IPO.

Voting agreement

We entered into an amended and restated voting agreement with certain holders of our common stock and preferred stock. Upon the consummation of our IPO, the amended and restated voting agreement terminated. For a description of the amended and restated voting agreement, see “Management—Board composition—Voting arrangements.”

Right of first refusal and co-sale agreement

We entered into an amended and restated right of first refusal and co-sale agreement with certain holders of our common stock and preferred stock. This agreement provides for rights of first refusal and co-sale relating to the shares of our common stock held by the parties to the agreement. Upon the consummation of our IPO, the amended and restated right of first refusal and co-sale agreement terminated.

Casma sublease and sublease guarantee

Following our acquisition of Warp Drive, in February 2019, we entered into a sublease agreement with Casma Therapeutics, Inc., or Casma, for Casma to sublease from us approximately 22,000 square feet of office and laboratory space in Cambridge, Massachusetts. The term of this sublease expires in February 2023. The sublease provides for initial annual base rent for the complete subleased premises of approximately \$1.7 million, with annual increases of approximately 3.0% in annual base rent. Third Rock Ventures, LLC is affiliated with Third Rock Ventures and provided a Guarantee of Sublease to guarantee to us the payment of the sublease obligations under the sublease. At the time such Guarantee of Sublease was provided and at the time we entered into the sublease agreement, entities affiliated with Third Rock Ventures were beneficial owners of (in the aggregate) more than 5% of our capital stock and were major stockholders of Casma. Alexis Borisy, who is currently a member of our board of directors and was a member of our board of directors at the time such Guarantee of Sublease was provided, was then an affiliate of Third Rock Ventures.

Transactions with Sanofi

In connection with our obligations and responsibilities under the Sanofi Agreement, in April 2019, we entered into a Clinical Supply Agreement with Genzyme Corporation, an affiliate of Sanofi, and a Quality Agreement with Sanofi-Aventis Recherche & Developpement, an affiliate of Sanofi. The Quality Agreement was amended in December 2019. For the purposes of this discussion, we refer to Genzyme Corporation and Sanofi-Aventis Recherche & Developpement, respectively, as Sanofi. At the time both such agreements were entered into, entities affiliated with Sanofi were beneficial owners of (in the aggregate) more than 5% of our capital stock. The Clinical Supply Agreement governs how we will oversee the manufacture and supply of any SHP2 inhibitors requested by Sanofi for use in its clinical development activities under the Sanofi Agreement and provides that Sanofi will compensate us for the costs to manufacture any such product plus a 10% fee. The Quality Agreement requires that the production of RMC-4630 meets certain quality standards and puts certain conditions on our arrangements with subcontractors. The Quality Agreement does not contemplate that any consideration be paid separate from the Sanofi Agreement.

Policies and procedures for related party transactions

Our board of directors adopted a written related person transaction policy, setting forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships in which we were or are to be a participant, where the amount involved exceeds \$120,000 and a related person had or will have a direct or indirect material interest, including without limitation purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related person. In reviewing and approving any such transactions, our audit committee is tasked to consider all relevant facts and circumstances, including but not limited to whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction with an unrelated third party and the extent of the related person's interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

Director independence

Our board of directors currently consists of eight members. Our board of directors has determined that all of our directors, other than Dr. Goldsmith, qualify as "independent" directors in accordance with the Nasdaq Global Select Market listing requirements. Dr. Goldsmith is not considered independent because he is an employee of Revolution Medicines, Inc. The Nasdaq Global Select Market's independence definition includes a series of objective tests, such as that the director is not, and has not been for at least three years, one of our employees and that neither the director nor any of his or her family members has engaged in various types of business dealings with us. In addition, as required by the Nasdaq Global Select Market rules, our board of directors has made a subjective determination as to each independent director that no relationship exists that, in the opinion of our board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In making these determinations, our board of directors reviewed and discussed information provided by the directors and us with regard to each director's business and personal activities and relationships as they may relate to us and our management. There are no family relationships among any of our directors or executive officers.

Item 14. Principal Accounting Fees and Services.

The following table sets forth all fees billed for professional audit services and other services rendered by PricewaterhouseCoopers LLP for each of the years ended December 31, 2019 and 2018:

| | 2019 (in thousands) | 2018 (in thousands) |
|---------------------------|------------------------|------------------------|
| Audit Fees ⁽¹⁾ | \$ 1,845 | \$ 565 |
| Audit-Related Fees | — | — |
| Tax Fees | — | — |
| All Other Fees | — | — |
| Total | <u>\$ 1,845</u> | <u>\$ 565</u> |

(1) Audit Fees consist of fees billed for professional services by PricewaterhouseCoopers LLP for the audit of our annual financial statement and the review of our registration statement on Form S-1 for our initial public offering and related services that are normally provided in connection with statutory and regulatory filings or engagements.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

- (a) The following documents are filed as part of this Annual Report on Form 10-K:
1. Financial Statements:

The following financial statements and schedules of the Registrant are contained in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K:

| | Page |
|---|------|
| Report of Independent Registered Public Accounting Firm | 118 |
| Consolidated Balance Sheets | 119 |
| Consolidated Statements of Operations | 120 |
| Consolidated Statements of Comprehensive Loss | 121 |
| Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit | 122 |
| Consolidated Statements of Cash Flows | 123 |
| Notes to Consolidated Financial Statements | 124 |

2. Financial Statement Schedules

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or notes thereto.

- (b) Exhibits

The exhibits listed in the following "Exhibit Index" are filed, furnished or incorporated by reference as part of this Annual Report.

Exhibit Index

| Exhibit number | Exhibit description | <u>Incorporated by reference</u> | | | Filed herewith |
|-------------------|--|----------------------------------|-----------|--------|-------------------|
| | | Form | Date | Number | |
| 2.1 | <u>Agreement and Plan of Merger, dated as of October 15, 2018, by and among Revolution Medicines, Inc., Trotsky Merger Sub, Inc., Warp Drive Bio, Inc., and Fortis Advisors LLC.</u> | S-1 | 1/17/2020 | 2.1 | |
| 3.1 | <u>Amended and Restated Certificate of Incorporation.</u> | S-1/A | 2/3/2020 | 3.3 | |
| 3.2 | <u>Amended and Restated Bylaws.</u> | S-1/A | 2/3/2020 | 3.5 | |
| 4.1 | Reference is made to Exhibits <u>3.1</u> through <u>3.2</u> . | | | | |
| 4.2 | <u>Form of Common Stock Certificate.</u> | S-1 | 1/17/2020 | 4.2 | |
| 4.3 | <u>Description of Common Stock</u> | | | | X |
| 10.1† | <u>Collaborative Research, Development and Commercialization Agreement, dated as of June 8, 2018, by and between Revolution Medicines, Inc. and Aventis, Inc., as amended.</u> | S-1 | 1/17/2020 | 10.1 | |
| 10.2 | <u>Amended and Restated Investors' Rights Agreement, dated as of June 5, 2019, by and among Revolution Medicines, Inc. and the investors listed therein.</u> | S-1 | 1/17/2020 | 10.2 | |
| 10.3A | <u>Lease between HCP LS Redwood City, LLC and Revolution Medicines, Inc., dated as of January 15, 2015.</u> | S-1 | 1/17/2020 | 10.3A | |

| Exhibit number | Exhibit description | Incorporated by reference | | | Filed herewith |
|-------------------|---|---------------------------|-----------|---------|-------------------|
| | | Form | Date | Number | |
| 10.3B | First Amendment to Lease by and between HCP LS Redwood City, LLC and Revolution Medicines, Inc., dated as of September 16, 2016. | S-1 | 1/17/2020 | 10.3B | |
| 10.3C | Sublease between OncoMed Pharmaceuticals, Inc. and Revolution Medicines, Inc., dated as of January 16, 2019. | S-1 | 1/17/2020 | 10.3C | |
| 10.4A | Lease Agreement between Are-Tech Square, LLC and Warp Drive Bio, LLC, dated as of August 22, 2012. | S-1 | 1/17/2020 | 10.4A | |
| 10.4B | First Amendment to Lease by and between Are-Tech Square, LLC and Warp Drive Bio, Inc., dated as of May 18, 2017. | S-1 | 1/17/2020 | 10.4B | |
| 10.5A | Assignment and Assumption of Lease by and between Warp Drive Bio, LLC and Revolution Medicines, Inc., dated as of January 30, 2019. | S-1 | 1/17/2020 | 10.5A | |
| 10.5B | Sublease Agreement between Revolution Medicines, Inc., as successor to Warp Drive Bio, LLC, and Casma Therapeutics, Inc., dated as of February 4, 2019. | S-1 | 1/17/2020 | 10.5B | |
| 10.6(a)# | 2014 Equity Incentive Plan, as amended. | S-1 | 1/17/2020 | 10.6(a) | |
| 10.6(b)# | Form of Amended and Restated Early Exercise Stock Option Grant Notice and Amended and Restated Stock Option Agreement under 2014 Equity Incentive Plan, as amended. | S-1 | 1/17/2020 | 10.6(b) | |
| 10.7(a)# | 2020 Incentive Award Plan. | S-1/A | 2/3/2020 | 10.7(a) | |
| 10.7(b)# | Form of Stock Option Grant Notice and Stock Option Agreement under the 2020 Incentive Award Plan. | S-1/A | 2/3/2020 | 10.7(b) | |
| 10.7(c)# | Form of Restricted Stock Award Agreement under the 2020 Incentive Award Plan. | S-1/A | 2/3/2020 | 10.7(c) | |
| 10.7(d)# | Form of Restricted Stock Unit Award Grant Notice under the 2020 Incentive Award Plan. | S-1/A | 2/3/2020 | 10.7(d) | |
| 10.8# | 2020 Employee Stock Purchase Plan. | S-1/A | 2/3/2020 | 10.8 | |
| 10.9# | Employment Agreement by and between Revolution Medicines, Inc. and Mark A. Goldsmith, M.D., Ph.D. | S-1 | 1/17/2020 | 10.9 | |
| 10.10# | Employment Agreement by and between Revolution Medicines, Inc. and Steve Kelsey, M.D., FRCR, FRCPath. | S-1 | 1/17/2020 | 10.10 | |
| 10.11# | Employment Agreement by and between Revolution Medicines, Inc. and Margaret Horn, J.D. | S-1 | 1/17/2020 | 10.11 | |
| 10.12# | Non-Employee Director Compensation Program. | S-1/A | 2/3/2020 | 10.12 | |
| 10.13 | Form of Indemnification Agreement for directors and officers. | S-1/A | 2/3/2020 | 10.13 | |
| 21.1 | Subsidiaries of Registrant. | S-1 | 1/17/2020 | 21.1 | |
| 23.1 | Consent of Independent Registered Public Accounting Firm. | | | | X |

| Exhibit number | Exhibit description | Incorporated by reference | Filed |
|-------------------|---|---------------------------|-------|
| 24.1 | Power of Attorney (included on signature page to this Form 10-K). | X | |
| 31.1 | Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. | X | |
| 31.2 | Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. | X | |
| 32.1* | Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. | X | |
| 32.2* | Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. | X | |

† Portions of the exhibit, marked by brackets, have been omitted because the omitted information (i) is not material and (ii) would likely cause competitive harm if publicly disclosed.

Indicates management contract or compensatory plan.

* The certifications attached as Exhibits 32.1 and 32.2 that accompany this Annual Report on Form 10-K, are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Revolution Medicines, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

Revolution Medicines, Inc.

Date: March 30, 2020

By: _____ /s/ Mark A. Goldsmith
Mark A. Goldsmith, M.D., Ph.D.
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Mark A. Goldsmith, M.D., Ph.D., Margaret A. Horn and Jack Anders, and each of them acting individually, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution, for him in any and all capacities, to sign any and all amendments to this annual report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

| Name | Title | Date |
|--|---|----------------|
| /s/ Mark A. Goldsmith Mark A. Goldsmith, M.D., Ph.D. | President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i> | March 30, 2020 |
| /s/ Jack Anders Jack Anders | Vice President, Finance and Principal Accounting Officer <i>(Principal Financial and Accounting Officer)</i> | March 30, 2020 |
| /s/ Elizabeth McKee Anderson Elizabeth McKee Anderson | Director | March 30, 2020 |
| /s/ Alexis Borisy Alexis Borisy | Director | March 30, 2020 |
| /s/ Neil Exter Neil Exter | Director | March 30, 2020 |
| /s/ Larry Lasky Larry Lasky, Ph.D. | Director | March 30, 2020 |
| /s/ Vincent A. Miller Vincent A. Miller, M.D. | Director | March 30, 2020 |
| /s/ Thilo Schroeder Thilo Schroeder, Ph.D. | Director | March 30, 2020 |
| /s/ Barbara Weber Barbara Weber, M.D. | Director | March 30, 2020 |

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

Revolution Medicines, Inc. ("we," "us," "our" and the "Company") has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): our common stock. The following description of our common stock is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to our amended and restated certificate of incorporation and our amended and restated bylaws, each of which are filed as exhibits to the Annual Report on Form 10-K, of which this exhibit is a part, and to the applicable provisions of Delaware law. We encourage you to read our amended and restated certificate of incorporation and our amended and restated bylaws and the applicable provisions of Delaware law for more information.

General

Our authorized capital stock consists of 310,000,000 shares, consisting of 300,000,000 shares of common stock, \$0.0001 par value, and 10,000,000 shares of preferred stock, \$0.0001 par value.

Common stock

Voting rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors. In addition, the affirmative vote of holders of 66-2/3% of the voting power of all of the then outstanding voting stock will be required to take certain actions, including amending certain provisions of our amended and restated certificate of incorporation, such as the provisions relating to amending our amended and restated bylaws, the classified board and director liability.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Fully paid and nonassessable

All of our outstanding shares of common stock are fully paid and nonassessable.

Registration rights

Under our amended and restated investors' rights agreement, certain holders of shares of our common stock, or their transferees, have the right to require us to register their shares under the Securities Act so that those shares may be

publicly resold, those holders, or their transferees, have the right to include their shares in any registration statement we file, in each case as described below. The shares subject to such registration rights are referred to as registrable securities.

Form S-1 demand registration rights

Holders of registrable securities are entitled to certain Form S-1 demand registration rights.

Beginning on August 11, 2020, the holders of at least a majority of the registrable securities can request that we register all or a portion of their shares, so long as such holders request that we register at least 40% of the registrable securities. These stockholders may make up to two requests for registration on Form S-1.

Form S-3 demand registration rights

Holders of registrable securities are entitled to certain Form S-3 demand registration rights. If we are eligible to use a Form S-3 registration statement, the holders of at least 20% of the registrable securities can request that we register all or a portion of their shares on a Form S-3 registration statement if the anticipated aggregate offering price is at least \$5.0 million, net of certain expenses related to the sale of the shares. These stockholders may make unlimited requests for registration on Form S-3, provided that we are not obligated to effect, or take any action to effect, a registration on Form S-3 if we have effected two registrations on Form S-3 pursuant to requests by these stockholders within the 12 month period immediately preceding such request.

Piggyback registration rights

In the event that we determine to register any of our securities under the Securities Act (subject to certain exceptions), either for our own account or for the account of other security holders, the holders of the holders of the registrable securities are entitled to certain “piggyback” registration rights allowing the holders to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to certain registrations, including related to the sale of securities to employees pursuant to employee benefit plans, the offer and sale of debt securities, or a Securities and Exchange Commission Rule 145 transaction, the holders of the registrable securities are entitled to notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration. In an underwritten offering, the underwriters have the right, subject to specified conditions, to limit the number of shares such holders may include.

Expenses of registration

We will pay the registration expenses, excluding certain expenses related to the sale of shares, of the holders of the shares registered pursuant to the Form S-1 demand, Form S-3 demand and piggyback registration rights described above, including the reasonable expenses of one counsel for the selling holders not to exceed \$25,000.

Expiration of registration rights

The Form S-1 demand, Form S-3 demand and piggyback registration rights described above will terminate, with respect to any particular stockholder, upon the earlier of (i) February 18, 2025, (ii) the date that Rule 144 or another similar exemption under the Securities Act is available to such stockholder for the sale of all of such stockholder's shares without limitation during a three-month period, or (iii) upon the consummation of a merger, consolidation or the sale of substantially all of our assets.

Anti-takeover effects of provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and Delaware law

Some provisions of Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could make the following transactions more difficult: acquisition of us by means of a tender offer; acquisition of us by means of a proxy contest or otherwise; or removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that might result in a premium over the market price for our shares.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Delaware anti-takeover statute

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits persons deemed “interested stockholders” from engaging in a “business combination” with a publicly-held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an “interested stockholder” is a person who, together with affiliates and associates, beneficially owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation’s voting stock. Generally, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors, such as discouraging takeover attempts that might result in a premium over the market price of our common stock.

Undesignated preferred stock

The ability to issue undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Special stockholder meetings

Our amended and restated certificate of incorporation and our amended and restated bylaws provide that a special meeting of stockholders may be called only by our board of directors, or by our President or Chief Executive Officer.

Requirements for advance notification of stockholder nominations and proposals

Our amended and restated bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.

Elimination of stockholder action by written consent

Our amended and restated certificate of incorporation and our amended and restated bylaws eliminate the right of stockholders to act by written consent without a meeting.

Classified board; election and removal of directors; filling vacancies

Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation provides for the removal of any of our directors only for cause and requires a stockholder vote by the holders of at least a 66-2/3% of the voting power of the then outstanding voting stock. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of the board, may only be filled by a resolution of the board of directors unless the board of directors determines that such vacancies shall be filled by the stockholders. This system of electing and removing directors and filling vacancies may tend to discourage a third party from making a tender offer or otherwise

attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Choice of forum

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the sole and exclusive forum for (i) any state law derivative action or proceeding brought on behalf us, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation or amended and restated bylaws or (iv) any action asserting a claim against us governed by the internal affairs doctrine. As a result, any action brought by any of our stockholders with regard to any of these matters will need to be filed in the Court of Chancery of the State of Delaware and cannot be filed in any other jurisdiction; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Securities Act, the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Nothing in our amended and restated certificate of incorporation or amended and restated bylaws will preclude stockholders that assert claims under the Securities Act or the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder.

Amendment of certificate of incorporation provisions

The amendment of any of the above provisions, except for the provision making it possible for our board of directors to issue undesignated preferred stock, would require approval by a stockholder vote by the holders of at least a 66-2/3% of the voting power of the then outstanding voting stock.

The provisions of the Delaware General Corporation Law, our amended and restated certificate of incorporation and our amended and restated bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Nasdaq Global Select Market listing

Our common stock is listed on the Nasdaq Global Select Market under the symbol "RVMD."

Transfer agent and registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, New York 11219.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-236493) of Revolution Medicines, Inc. of our report dated March 30, 2020 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
San Jose, California
March 30, 2020

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Mark A. Goldsmith, certify that:

1. I have reviewed this Annual Report on Form 10-K of Revolution Medicines, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2020

By: _____ /s/ Mark A. Goldsmith
 Mark A. Goldsmith, M.D., Ph.D.
 President and Chief Executive Officer
 (Principal Executive Officer)

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Jack Anders, certify that:

1. I have reviewed this Annual Report on Form 10-K of Revolution Medicines, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2020

By: _____ /s/ Jack Anders
Jack Anders

Vice President, Finance and Principal Accounting Office
(Principal Financial and Accounting Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Revolution Medicines, Inc. (the "Company") on Form 10-K for the period ending December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 30, 2020

By: _____ /s/ Mark A. Goldsmith
Mark A. Goldsmith, M.D., Ph.D.
Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Revolution Medicines, Inc. (the "Company") on Form 10-K for the period ending December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 30, 2020

By: _____ /s/ Jack Anders

Jack Anders

Vice President, Finance and Principal Accounting Officer
(Principal Financial and Accounting Officer)