

Mirati Therapeutics, Inc.
 Form 424B3
 April 29, 2019
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Filed Pursuant to Rule 424(b)(3)

Registration No. 333-227209

CALCULATION OF REGISTRATION FEE

Title of Class of	Number of	Proposed	Proposed	Amount of
		Maximum	Maximum	
Securities to be Registered	Shares to be	Offering Price	Aggregate	Registration Fee(2)
	Registered	Per Share(1)	Offering Price(1)	
Common Stock, par value \$0.001 per share, issuable upon exercise of pre-funded warrants	10,417,887	\$0.001	\$10,417.89	\$1.27

- (1) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(g) under the Securities Act. The offering price per share and the aggregate offering price are based upon the warrant exercise price of \$0.001 per share.
- (2) The registration fee is calculated and being paid pursuant to Rule 457(r) under the Securities Act of 1933, as amended, and relates to the Registration Statement on Form S-3 (File No. 333-227209) filed by the registrant on September 6, 2018.

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Prospectus Supplement

(To Prospectus dated September 6, 2018)

10,417,887 Shares

Common Stock

This prospectus supplement relates to the offer and sale by us of 10,417,887 shares of our common stock, par value \$0.001 per share, that are issuable upon the exercise of pre-funded warrants. Pre-funded warrants to purchase 7,258,263 shares of our common stock at an exercise price of \$0.001 per share were originally issued by us on January 11, 2017, pursuant to a prospectus dated November 20, 2015, and a related prospectus supplement dated January 6, 2017, pre-funded warrants to purchase 4,137,999 shares of our common stock at an exercise price of \$0.001 per share were originally issued by us on November 20, 2017, pursuant to a prospectus dated November 20, 2015, and a related prospectus supplement dated November 16, 2017, and pre-funded warrants to purchase 421,650 shares of our common stock at an exercise price of \$0.001 per share were originally issued by us on June 11, 2018, pursuant to a prospectus dated November 20, 2015, and a related prospectus supplement dated June 6, 2018. Of these pre-funded warrants, pre-funded warrants to purchase 10,417,887 shares of our common stock remain outstanding. We will receive the proceeds from any cash exercises of the pre-funded warrants. Each pre-funded warrant is exercisable at any time after its original issuance. If all of the warrants are exercised for cash, we will receive aggregate proceeds of \$10,417.89.

Our common stock is quoted on The Nasdaq Global Select Market under the symbol **MRTX**. On April 26, 2019, the last reported sale price of our common stock was \$63.68 per share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading Risk Factors contained in this prospectus supplement and in any free writing prospectuses we have authorized for use in connection with this offering, and under similar headings in the other documents that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is April 29, 2019.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated September 6, 2018, including the documents incorporated by reference therein, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement. You should assume that the information contained in this prospectus supplement is accurate as of the date on the front cover of this prospectus supplement only and that any information we have incorporated by reference or included in the accompanying prospectus is accurate only as of the date given in the document incorporated by reference or as of the date of the prospectus, as applicable, regardless of the time of delivery of this prospectus supplement or the accompanying prospectus or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

Unless the context indicates otherwise, as used in this prospectus supplement, the terms Mirati, the Company, we, us, and our refer to Mirati Therapeutics, Inc., a Delaware corporation, and its subsidiaries on a consolidated basis.

This prospectus supplement, the accompanying prospectus and the information incorporated herein and therein by reference may include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

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PROSPECTUS SUPPLEMENT SUMMARY

*This summary highlights selected information appearing elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering and may not contain all of the information that is important to you. This prospectus supplement and the accompanying prospectus include information about the shares the selling stockholders are offering as well as information regarding our business and financial data. You should read this prospectus supplement and the accompanying prospectus, including the information incorporated by reference and any free writing prospectuses we have authorized for use in connection with this offering, in their entirety. Investors should carefully consider the information set forth under *Risk Factors* in this prospectus supplement.*

Overview

Mirati Therapeutics, Inc. is a clinical-stage oncology company developing product candidates to address the genetic and immunological promoters of cancer. Our precision oncology clinical programs utilize genomic testing to identify and select cancer patients who we believe would be most likely to benefit from targeted treatment. In immuno-oncology, we are advancing a clinical program where our product candidate has the potential to improve the immune environment of tumor cells and enhance and expand the efficacy of existing cancer immunotherapy medicines when given in combination. Our KRAS inhibitor program is focused on developing novel inhibitors of KRAS mutations and includes one clinical program and a preclinical program. We also have additional preclinical programs which include potentially first-in-class and best-in-class product candidates specifically designed to address mutations and tumors where few treatment options exist. We approach each of our discovery and development programs with a singular focus: to translate our deep understanding of the molecular drivers of cancer into better therapies and better outcomes for patients.

Our clinical programs consist of two product candidates: sitravatinib, a multi-kinase inhibitor, and MRTX849, a KRAS G12C inhibitor. We have several early discovery programs, including a preclinical program for a KRAS G12D inhibitor.

Corporate Information

We were incorporated in Delaware in April 2013. Our principal executive offices are located at 9393 Towne Centre Drive, Suite 200, San Diego, California 92121, and our telephone number is (858) 332-3410. Our corporate website address is www.mirati.com. We do not incorporate by reference into this prospectus the information on, or accessible through, our website, and you should not consider it as part of this prospectus.

The Offering

This offering involves the offer and sale by us 10,417,887 shares of our common stock issuable upon the exercise of pre-funded warrants. Pre-funded warrants to purchase 7,258,263 shares of our common stock at an exercise price of \$0.001 per share were originally issued by us on January 11, 2017, pre-funded warrants to purchase 4,137,999 shares of our common stock at an exercise price of \$0.001 per share originally were issued by us on November 20, 2017, and pre-funded warrants to purchase 421,650 shares of our common stock at an exercise price of \$0.001 per share were originally issued by us on June 11, 2018. Of these pre-funded warrants, pre-funded warrants to purchase 10,417,877 shares of our common stock remain outstanding. Each pre-funded warrant is exercisable at any time after its original issuance. Upon exercise of the pre-funded warrants for cash, the holders of the warrants would pay us the exercise price per share of common stock, or an aggregate of \$10,417.89 if the warrants are exercised in full.

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Use of Proceeds

We currently intend to use the net proceeds from the sale of the common stock offered by us hereunder, if any, for general corporate purposes and working capital. See "Use of Proceeds" in this prospectus.

Risk Factors

Investing in our common stock involves a high degree of risk. See "Risk Factors."

Nasdaq Global Select Market Listing

Our common stock is listed on The Nasdaq Global Select Market under the symbol "MRTX."

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RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and discussed under the heading "Risk Factors" contained in our most recent Annual Report on Form 10-K, and in our most recent Quarterly Report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety, together with other information in this prospectus, the documents incorporated by reference and any free writing prospectus that we may authorize for use in connection with this offering. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled "Special Note Regarding Forward-Looking Statements."

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that involve a number of risks and uncertainties. Although our forward-looking statements reflect the good faith judgment of our management, these statements can only be based on facts and factors currently known by us. Consequently, these forward-looking statements are inherently subject to risks and uncertainties, and actual results and outcomes may differ materially from results and outcomes discussed in the forward-looking statements.

Forward-looking statements can be identified by the use of forward-looking words such as believes, expects, hopes, may, will, plan, intends, estimates, could, should, would, continue, seeks, pro forma, or anticipated words (including their use in the negative), or by discussions of future matters such as the development of current or future product candidates, timing of potential development activities and milestones, business plans and strategies, possible changes in legislation and other statements that are not historical. These statements include but are not limited to statements under the captions Business, Risk Factors and Management's Discussion and Analysis of Financial Condition and Results of Operations and in other sections incorporated by reference from our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, as well as our other filings with the SEC. You should be aware that the occurrence of any of the events discussed under the heading Risk Factors in any documents incorporated by reference herein could substantially harm our business, operating results and financial condition and that if any of these events occurs, it could adversely affect the value of an investment in our securities.

We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. Before deciding to purchase our common stock, you should carefully consider the risk factors incorporated by reference herein, in addition to the other information set forth in this prospectus supplement, the accompanying prospectus and in the documents incorporated by reference herein.

USE OF PROCEEDS

We currently intend to use the net proceeds from the sale of the common stock offered by us hereunder, if any, for general corporate purposes and working capital. Our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to invest the proceeds in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our 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 may deem relevant.

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PLAN OF DISTRIBUTION

The common stock referenced on the cover page of this prospectus is being offered solely by us and will be issued and sold upon the exercise of the warrants described herein. No fractional shares of common stock will be issued in connection with the exercise of a warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the market value of a share of common stock.

LEGAL MATTERS

Cooley LLP will pass upon the validity of the securities offered by this prospectus.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, and the effectiveness of our internal control over financial reporting as of December 31, 2018, as set forth in their reports, which are incorporated by reference herein. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus supplement and the accompanying prospectus relate to a registration statement on Form S-3 we filed with the SEC under the Securities Act and do not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus supplement or the accompanying prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus. Information contained in this prospectus supplement and the accompanying prospectus and information that we file with the SEC in the future and incorporate by reference in this prospectus supplement and the accompanying prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings (other than information in current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the prospectus supplement and prior to the termination of the offering of the securities covered by this prospectus supplement:

our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on February 28, 2019;

the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2018 from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 19, 2019;

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our Current Reports on Form 8-K filed with the SEC on January 7, 2019, January 17, 2019, January 22, 2019, February 20, 2019 and April 25, 2019; and

the description of our common stock which is registered under Section 12 of the Exchange Act, in our registration statement on Form 10-12B/A, filed with the SEC on July 9, 2013, including any amendments or reports filed for the purpose of updating such description.

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to:

Investor Relations

Mirati Therapeutics, Inc.

9393 Towne Centre Drive, Suite 200

San Diego, CA 92121

(858) 332-3410

In accordance with Rule 412 of the Securities Act, any statement contained in a document incorporated by reference herein shall be deemed modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

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Prospectus

Common Stock

Preferred Stock

Debt Securities

Warrants

From time to time, we may offer and sell any combination of the securities described in this prospectus, either individually or in combination with other securities. We may also offer common stock or preferred stock upon conversion of debt securities, common stock upon conversion of preferred stock, or common stock, preferred stock or debt securities upon the exercise of warrants.

Each time we sell securities pursuant to this prospectus, we will provide the specific terms of these offerings and securities in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as the documents incorporated by reference, before buying any of the securities being offered.

Our common stock is listed on The Nasdaq Global Select Market under the trading symbol MRTX. On September 5, 2018, the last reported sale price of our common stock was \$56.65 per share. The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on The Nasdaq Global Select Market or any other securities exchange of the securities covered by the applicable prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading Risk Factors on page 6 of this prospectus and contained in the applicable prospectus supplement and in any free writing prospectuses we have authorized for use in connection with a specific offering, and under similar headings in the documents that are incorporated by reference into this prospectus.

This prospectus may not be used to consummate a sale of securities unless accompanied by a prospectus supplement.

The securities may be sold directly to investors, through agents designated from time to time or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section entitled Plan of Distribution in this prospectus. If any agents, underwriters or dealers are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents, underwriters or dealers and any applicable fees, commissions, discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive

from such sale will also be set forth in a prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is September 6, 2018.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a shelf registration process. Under this shelf registration process, we may offer and sell shares of our common stock and preferred stock, various series of debt securities and/or warrants to purchase any of such securities, either individually or in combination with other securities, in one or more offerings. There is no limit on the aggregate amount of the securities that we may offer pursuant to the registration statement of which this prospectus is a part. This prospectus provides you with a general description of the securities we may offer.

Each time we offer securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents that we have incorporated by reference into this prospectus. We urge you to read carefully this prospectus, any applicable prospectus supplement and any free writing prospectuses we have authorized for use in connection with a specific offering, together with the information incorporated herein by reference as described under the heading **Incorporation of Certain Information by Reference**, before buying any of the securities being offered.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

We have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so.

The information appearing in this prospectus, any applicable prospectus supplement and any related free writing prospectus is accurate only as of the date on the front of the document and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, the applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled **Where You Can Find More Information**.

Unless the context indicates otherwise, as used in this prospectus, the terms **Mirati**, **the Company**, **we**, **us** and **our** to Mirati Therapeutics, Inc., a Delaware corporation, and its subsidiaries on a consolidated basis. Our logos, **Mirati Therapeutics** and **MethylGene**, are unregistered trademarks or service marks of Mirati, and are our property. This prospectus also includes references to trademarks and service marks of other entities, and those trademarks and service marks are the property of their respective owners.

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PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus or incorporated by reference in this prospectus, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading Risk Factors contained herein, in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

Overview

Company Overview

Mirati Therapeutics, Inc. is a clinical-stage oncology company developing product candidates to address the genetic, epigenetic and immunological promoters of cancer. Our precision oncology clinical programs utilize next-generation genomic testing to identify and select cancer patients who we believe would be most likely to benefit from targeted drug treatment. In immuno-oncology, we are advancing clinical programs where we believe our product candidates have the potential to improve the immune environment of tumor cells and enhance and expand the efficacy of existing cancer immunotherapy medicines when given in combination. Our preclinical programs include potentially first-in-class and best-in-class product candidates specifically designed to address mutations and tumors where few treatment options exist. We approach each of our discovery and development programs with a singular focus: to translate our deep understanding of the molecular drivers of cancer into better therapies and better outcomes for patients.

Our clinical pipeline consists of two clinical-stage product candidates: sitravatinib and mocetinostat. We also have a KRAS inhibitor program in preclinical development.

Sitravatinib in Combination with Immune Checkpoint Inhibitors

Sitravatinib is a spectrum-selective kinase inhibitor that potently inhibits receptor tyrosine kinases, or RTKs, including TAM family receptors (TYRO3, Axl, Mer), split family receptors (VEGFR2, KIT) and RET. As an immuno-oncology agent, sitravatinib is being evaluated in a Phase 2 clinical trial in combination with nivolumab (OPDIVO®), Bristol Myers Squibb's anti-PD-1 checkpoint inhibitor, in patients with non-small cell lung cancer, or NSCLC, who have experienced documented disease progression following prior treatment with a checkpoint inhibitor.

We expect to hold an end of Phase 2 meeting with the U.S. Food and Drug Administration, or FDA, in the third quarter of 2018 with respect to the development of sitravatinib in combination with a checkpoint inhibitor in NSCLC. We plan to present data from this clinical trial at the 2018 European Society of Medical Oncologists Congress, or ESMO, in October 2018, and at the 2018 Society for Immunotherapy of Cancer, or SITC, in November 2018.

We initiated a clinical trial evaluating sitravatinib in combination with nivolumab (OPDIVO®) in patients with head and neck squamous cell cancer in the third quarter of 2018. We also expect to initiate a clinical trial evaluating sitravatinib in combination with nivolumab (OPDIVO®) in patients with bladder cancer in the third quarter of 2018, with additional plans to initiate pre-surgical studies for patients with RCC in the third quarter of 2018.

Sitravatinib as a Single Agent

Sitravatinib is also being evaluated as a single agent in a Phase 1b expansion clinical trial in patients with NSCLC and other tumor types who have specific genetic alterations in CBL, CHR4Q12 and RET. We plan to present data from this clinical trial at ESMO in October 2018.

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Sitravatinib Development in Collaboration with BeiGene, Ltd.

In January 2018, we entered into a Collaboration and License Agreement, or the BeiGene Agreement, with BeiGene, Ltd., or BeiGene, pursuant to which we and BeiGene agreed to collaboratively develop sitravatinib in Asia (excluding Japan and certain other countries), Australia and New Zealand, or the Licensed Territory. Under the BeiGene Agreement, we granted BeiGene an exclusive license to develop, manufacture and commercialize sitravatinib in the Licensed Territory, and we retained exclusive rights for the development, manufacturing and commercialization of sitravatinib outside the Licensed Territory.

We expect that BeiGene will initiate clinical trials evaluating sitravatinib in combination with tislelizumab, BeiGene's clinical-stage PD-1 checkpoint inhibitor, in the fourth quarter of 2018, in patients with NSCLC, RCC, hepatocellular cancer, gastric cancer and ovarian cancer.

Mocetinostat

Mocetinostat is an oral, Class 1 selective histone deacetylase, or HDAC, inhibitor. Mocetinostat is being evaluated in a Phase 2 clinical trial in combination with durvalumab (IMFINZI), MedImmune Limited's anti-PD-L1 checkpoint inhibitor, for the treatment of patients with NSCLC who have experienced disease progression following prior treatment with a checkpoint inhibitor. We expect to report data from this clinical trial later in 2018.

KRAS Inhibitor Program

Our KRAS inhibitor program is focused on the development of compounds that target forms of KRAS which harbor either G12C or G12D mutations. Our lead KRAS G12C compound, MRTX849, is a potent and orally bio-available small molecule and is designed to selectively inhibit G12C mutations. KRAS G12C mutations are present in approximately 14% of NSCLC adenocarcinoma patients and 5% of colorectal cancer, or CRC, patients as well as a small percentage of other tumors (e.g. pancreatic). Tumors characterized by KRAS G12C mutations are commonly associated with poor prognosis and resistance to therapy, and patients with these mutations have few treatment options. Single agent treatment with MRTX849 has shown complete regression of KRAS G12C-positive human tumors implanted in mice. Investigational New Drug application, or IND, enabling pre-clinical studies are underway, and we plan to file an IND in the fourth quarter of 2018. We expect to initiate a Phase 1 clinical trial evaluating MRTX849 in the first quarter of 2019 and to enroll only patients whose tumors carry G12C mutations. Following dose escalation, we expect to expand into cohorts that include patients with NSCLC, CRC and other tumors that carry the G12C mutation. We expect to report early clinical results in 2019.

Corporate Information

We were incorporated in Delaware in April 2013. Our principal executive offices are located at 9393 Towne Centre Drive, Suite 200, San Diego, California 92121, and our telephone number is (858) 332-3410. Our corporate website address is www.mirati.com. We do not incorporate by reference into this prospectus the information on, or accessible through, our website, and you should not consider it as part of this prospectus.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012. We expect to remain an emerging growth company until December 31, 2018.

Description of Securities

We may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants to purchase any of such securities, either individually or in combination with other securities, from time to time under this prospectus, together with the applicable prospectus supplement and any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of any offering. This

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prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities offering, including, to the extent applicable:

designation or classification;

aggregate principal amount or aggregate offering price;

maturity date, if applicable;

original issue discount, if any;

rates and times of payment of interest or dividends, if any;

redemption, conversion, exercise, exchange or sinking fund terms, if any;

ranking;

restrictive covenants, if any;

voting or other rights, if any;

conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange; and

material or special U.S. federal income tax considerations, if any.

The applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents we have incorporated by reference.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. If we do offer securities to or through agents or underwriters, we will include in the applicable prospectus supplement:

the names of those agents or underwriters;

applicable fees, discounts and commissions to be paid to them;

details regarding over-allotment or other options, if any; and

the net proceeds to us, if any.

Common Stock. We may issue shares of our common stock from time to time. The holders of common stock are entitled to one vote per share on all matters to be voted on by the stockholders. Subject to the preferences of any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably any dividends our board of directors declares out of funds legally available for the payment of dividends. If we are liquidated, dissolved or wound up, the holders of common stock are entitled to share pro rata all assets remaining after payment of liabilities and liquidation preferences of any outstanding shares of preferred stock. Holders of common stock have no preemptive rights or rights to convert their common stock into any other securities. There are no redemption or sinking fund provisions applicable to the common stock. In this prospectus, we have summarized certain general features of the common stock under the heading *Description of Capital Stock Common Stock*. We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to any common stock being offered.

Preferred Stock. We may issue shares of our preferred stock from time to time, in one or more series. Under our amended and restated certificate of incorporation, our board of directors has the authority to designate up to 10,000,000 shares of preferred stock in one or more series and determine or alter the designation, rights, preferences, privileges and restrictions granted to or imposed upon any series of preferred stock, any or all of

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which may be greater than the rights of the common stock. If we sell any new series of preferred stock under this prospectus and any applicable prospectus supplement, our board of directors will determine the rights, preferences and privileges of the preferred stock being offered, as well as the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, voting rights, preemptive rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Preferred stock may be convertible into our common stock or other securities of ours, or may be exchangeable for debt securities. Conversion may be mandatory or at the holder's option and would be at prescribed conversion rates. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of the certificate of designation that describes the terms of the series of preferred stock being offered before the issuance of the related series of preferred stock. In this prospectus, we have summarized certain general features of the preferred stock under the heading "Description of Capital Stock - Preferred Stock." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

Debt Securities. We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. Convertible or exchangeable debt securities will be convertible into or exchangeable for our common stock or our other securities. Conversion or exchange may be mandatory or optional (at our option or the holder's option) and would be at prescribed conversion or exchange prices.

The debt securities will be issued under an indenture that we will enter into with a national banking association or other eligible party, as trustee. In this prospectus, we have summarized certain general features of the debt securities under the heading "Description of Debt Securities." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the series of debt securities being offered, as well as the complete indenture and any supplemental indentures that contain the terms of the debt securities. We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

Warrants. We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or in combination with common stock, preferred stock and/or debt securities offered by any prospectus supplement. In this prospectus, we have summarized certain general features of the warrants under the heading "Description of Warrants." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the warrants. We have filed the forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants that we may offer as exhibits to the registration statement of which this prospectus is a part. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Warrants may be issued under a warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if any, in the applicable prospectus supplement relating to a particular series of warrants.

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Use of Proceeds

Except as described in any applicable prospectus supplement or in any free writing prospectuses we have authorized for use in connection with a specific offering, we intend to use the net proceeds from the sale of the securities under this prospectus for general corporate purposes, which may include funding research and development, capital expenditures, working capital and general and administrative expenses. See Use of Proceeds on page 7 of this prospectus.

Nasdaq Global Select Market Listing

Our common stock is listed on The Nasdaq Global Select Market under the symbol MRTX.

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RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described under the heading **Risk Factors** contained in the applicable prospectus supplement and any related free writing prospectus, and described under the section entitled **Risk Factors** contained in our most recent annual report on Form 10-K, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety, together with other information in this prospectus, the documents incorporated by reference and any free writing prospectus that we may authorize for use in connection with a specific offering. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our securities to decline, resulting in a loss of all or part of your investment. Please also carefully read the section below entitled **Forward-Looking Statements**.

FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act that involve a number of risks and uncertainties. Although our forward-looking statements reflect the good faith judgment of our management, these statements can only be based on facts and factors currently known by us. Consequently, these forward-looking statements are inherently subject to risks and uncertainties, and actual results and outcomes may differ materially from results and outcomes discussed in the forward-looking statements.

Forward-looking statements can be identified by the use of forward-looking words such as *believes, expects, hopes, may, will, plan, intends, estimates, could, should, would, continue, seeks, pro forma, or anticipate* words (including their use in the negative), or by discussions of future matters such as the development of new products, technology enhancements, possible collaborations, possible changes in legislation and other statements that are not historical. These statements include but are not limited to statements under the captions **Business, Risk Factors** and **Management's Discussion and Analysis of Financial Condition and Results of Operations** and in other sections incorporated by reference from our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, as well as our other filings with the SEC. You should be aware that the occurrence of any of the events discussed under the heading **Risk Factors** in any applicable prospectus supplement and any documents incorporated by reference herein or therein could substantially harm our business, operating results and financial condition and that if any of these events occurs, it could adversely affect the value of an investment in our securities.

The cautionary statements made in this prospectus are intended to be applicable to all related forward-looking statements wherever they may appear in this prospectus or in any prospectus supplement or any documents incorporated by reference herein or therein. We urge you not to place undue reliance on these forward-looking statements, which speak only as of the date they are made. Except as required by law, we assume no obligation to update our forward-looking statements, even if new information becomes available in the future.

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The following table sets forth our ratio of earnings to fixed charges and the ratio of our combined fixed charges and preference dividends to earnings for each of the periods indicated. The following table is qualified by the more detailed information appearing in the computation table set forth in Exhibit 12.1 to the registration statement of which this prospectus is part and the historical financial statements, including the notes to those financial statements, incorporated by reference in this prospectus. We have paid no dividends on preferred shares during the periods indicated. Therefore, the ratios of earnings to combined fixed charges and preferred dividends are the same as the ratios of earnings to fixed charges.

	Year Ended December 31,					Six Months Ended June 30,
	2013	2014	2015	2016	2017	2018
Ratio of earnings to fixed charges	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾
Ratio of earnings to combined fixed charges and preferred stock dividends	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾	N/A ⁽¹⁾

For purposes of computing the ratio of earnings to fixed charges and the ratio of our combined fixed charges and preference dividends to earnings, earnings consist of income (loss) from continuing operations before income taxes plus fixed charges. Fixed charges consist of an estimate of the interest within rental expense.

- (1) We did not generate earnings for the six months ended June 30, 2018 or any of the years ended December 31, 2017, 2016, 2015, 2014 and 2013. Accordingly, our earnings were insufficient to cover fixed charges for such periods and we are unable to disclose a ratio of earnings to fixed charges for such periods. The dollar amount of the deficiency in earnings available for fixed charges for the six months ended June 30, 2018 and the years ended December 31, 2017, 2016, 2015, 2014 and 2013 was approximately \$43 million, \$70 million, \$83 million, \$65 million, \$44 million and \$53 million, respectively.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of the securities offered hereby. Unless otherwise indicated in any prospectus supplement, we intend to use the net proceeds from the sale of the securities under this prospectus for general corporate purposes, which may include clinical trial and other research and development expenses, capital expenditures, working capital and general and administrative expenses, and potential acquisitions of or investments in businesses, products and technologies that complement our business, although we have no present commitments or agreements to make any such acquisitions or investments. We will set forth in the applicable prospectus supplement or free writing prospectus our intended use for the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement or free writing prospectus. Pending these uses, we intend to invest the net proceeds in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

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DESCRIPTION OF CAPITAL STOCK

As of the date of this prospectus, our amended and restated certificate of incorporation authorizes us to issue 100,000,000 shares of common stock, par value \$0.001 per share, and 10,000,000 shares of preferred stock, par value \$0.001 per share. As of June 30, 2018, 32,313,440 shares of common stock were outstanding and no shares of preferred stock were outstanding.

The following summary description of our capital stock is based on the provisions of our amended and restated certificate of incorporation, as well as our bylaws and the applicable provisions of the Delaware General Corporation Law. This information is qualified entirely by reference to the applicable provisions of our amended and restated certificate of incorporation, amended and restated bylaws and the Delaware General Corporation Law. For information on how to obtain copies of our amended and restated certificate of incorporation and amended and restated bylaws, which are exhibits to the registration statement of which this prospectus is a part, see [Where You Can Find More Information](#).

Common Stock

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of the stockholders, including the election of directors. Our amended and restated certificate of incorporation and bylaws do not provide for cumulative voting rights. Other than as described below, holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of 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 are outstanding or that we may designate and issue in the future. All of our outstanding shares of common stock are fully paid and nonassessable.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation our board of directors has the authority, without further action by the stockholders (unless such stockholder action is required by applicable law or stock exchange listing rules), to designate and issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the designations, powers, preferences, privileges and relative participating, optional or special rights and the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

The preferred shares may have voting or conversion rights that could have the effect of restricting dividends on our shares of common stock, diluting the voting power of our shares of common stock, impairing the rights of our shares of common stock in the event of our dissolution, liquidation or winding-up or otherwise adversely affect the rights of holders of our shares of common stock. The issuance of preferred shares, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change of control and may adversely affect the market price of our shares of common stock and may preclude stockholders from realizing a potential premium over the market value of their shares.

Our board of directors will fix the designations, voting powers, preferences, rights, qualifications, limitations and restrictions of each series of preferred stock that we offer under this prospectus and applicable prospectus supplements in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which

this prospectus is a part, or will incorporate by reference from reports that we file with the

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SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering. This description will include:

the title and stated value;