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As filed with the Securities and Exchange Commission on May 18, 2020

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

MODERNA, INC.
(Exact name of registrant as specified in its charter)

Delaware	**81-3467528**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

200 Technology Square
Cambridge, MA 02139
(617) 714-6500
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Stéphane Bancel
Chief Executive Officer
200 Technology Square
Cambridge, MA 02139
(617) 714-6500
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Stuart Cable, Esq. **Kingsley Taft, Esq.** **Gregg Katz, Esq.** **Goodwin Procter LLP** **100 Northern Avenue** **Boston, Massachusetts 02210** **(617) 570-1000**	**Lori Henderson, Esq.** **General Counsel** **Moderna, Inc.** **200 Technology Square** **Cambridge, Massachusetts 02139** **(617) 714-6500**	**Patrick O'Brien, Esq.** **Michael S. Pilo, Esq.** **Ropes & Gray LLP** **Prudential Tower** **800 Boylston Street** **Boston, MA 02116** **(617) 951-7527**

Approximate date of commencement of proposed sale to the public: From time to time or at one time as determined by the Registrant after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☒

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

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 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Amount to be Registered(1)**	**Proposed Maximum Offering Price per Share(1)**	**Proposed Maximum Aggregate Offering Price(1)**	**Amount of Registration Fee(1)**
Common Stock, par value $0.0001 per share	—	—	—	—

(1) An indeterminate aggregate initial offering price or number of shares of Common Stock is being registered as may from time to time be issued at indeterminate prices. In accordance with Rules 456(b) and 457(r) under the Securities Act of 1933, as amended, the Registrant is deferring payment of the registration fee. Any registration fee will be paid subsequently on a pay-as-you-go basis in accordance with Rule 457(r).

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The information in this preliminary prospectus is not complete and may be changed. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 18, 2020

PRELIMINARY PROSPECTUS

$1,250,000,000

moderna

Common Stock

We are offering $1,250,000,000 of shares of our common stock in this offering.

Our common stock is listed on the Nasdaq Global Select Market under the symbol "MRNA." On May 15, 2020, the last reported sale price of our common stock on the Nasdaq Global Select Market was $66.69 per share.

Investing in our common stock involves risks. See "Risk Factors" on page 10 of this prospectus, as well as in the documents incorporated or deemed to be incorporated by reference into this prospectus, to read more about factors you should consider before buying our common stock.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

	Per share	Total
Public offering price	$	$
Underwriting discount(1)	$	$
Proceeds, before expenses, to us	$	$

(1) We refer you to "Underwriting" beginning on page 27 of this prospectus for additional information regarding underwriter compensation.

We have granted the underwriter an option to purchase up to $187,500,000 of additional shares of our common stock at the public offering price less the underwriting discount.

The underwriter expects to deliver the shares of common stock against payment in New York, New York on , 2020.

Morgan Stanley

Prospectus dated , 2020.

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PROSPECTUS

We have not, and the underwriter has not, authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this prospectus or in any free writing prospectus we have prepared. 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 shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

Unless otherwise stated, when used in this prospectus, the terms “Moderna,” “we,” “our” and “us” refer to Moderna, Inc., a Delaware corporation, and its consolidated subsidiaries, unless otherwise specified or the context otherwise requires.

No action is being taken in any jurisdiction outside the United States to permit a public offering of the securities or possession or distribution of this prospectus in that jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus applicable to that jurisdiction.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus and in the documents incorporated by reference herein. This summary does not contain all the information that you should consider before investing in our common stock. You should read this entire prospectus carefully, especially the risks of investing in our common stock discussed under "Risk Factors" beginning on page 10 of this prospectus, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus, before making an investment decision.

Our Business

We are creating a new class of transformative medicines based on messenger RNA ("mRNA") to improve the lives of patients. From the beginning, we designed our strategy and operations to realize the full potential value and impact of mRNA over a long time horizon across a broad array of human diseases. We built and continue to invest in a platform to advance the technological frontier of mRNA medicines. We made and continue to make forward investments in scalable infrastructure and capabilities to pursue a pipeline of potential medicines that reflect the breadth of the mRNA opportunity. Since we nominated our first program in late 2014, we and our strategic collaborators have advanced in parallel a diverse development pipeline which currently consists of 23 development candidates across our 22 programs. Over 1,900 subjects have been enrolled in our clinical trials since December 2015. Our therapeutic and vaccine development programs span infectious diseases, immuno-oncology, rare diseases, autoimmune diseases and cardiovascular diseases. We have assembled an exceptional team of approximately 880 employees and have ongoing strategic alliances with leading biopharmaceutical companies, including AstraZeneca, Merck & Co., and Vertex Pharmaceuticals, as well as government-sponsored and private organizations focused on global health initiatives, including the Biomedical Advanced Research and Development Authority ("BARDA"), Defense Advanced Research Projects Agency ("DARPA") and Bill & Melinda Gates Foundation. As of March 31, 2020, we have raised over $3.7 billion in total funding from our strategic collaborators and investors, and had estimated cash, cash equivalents and investments of approximately $1.7 billion. As we seek to unlock the inherent advantages of mRNA, we aim to address as many diseases and impact as many patients as our technology, talent and capital permit.

Our diverse pipeline comprises programs across six modalities and a broad range of therapeutic areas. A modality is a group of potential mRNA medicines with shared product features, and the associated combination of mRNA technologies, delivery technologies and manufacturing processes. Our approach is to leverage early programs within a modality to generate clinical data and insights that reduce the technology risk of subsequent programs and accelerate the expansion of the pipeline in that modality. We believe that multiple positive Phase 1 readouts from our infectious disease vaccine portfolio, including our cytomegalovirus ("CMV") vaccine, and from our chikungunya antibody program have reduced the risk of our prophylactic vaccines and systemic secreted & cell surface therapeutics modalities, respectively, which we have now designated core modalities. In these two modalities, we have brought five new development candidates forward in 2020: interleukin-2 ("IL-2"), programmed death-ligand 1 ("PD-L1"), a pediatric Respiratory Syncytial Virus ("RSV") vaccine, an Epstein-Barr Virus ("EBV") vaccine and a vaccine to prevent the novel coronavirus ("COVID-19"), as part of our mission to use our technology to advance global public health.

Our Vaccine Candidate Against SARS-COV-2 (mRNA-1273)

In response to the global coronavirus pandemic, we are pursuing the rapid development and manufacture of our vaccine candidate, mRNA-1273, for the treatment of SARS-CoV-2, the novel strain of coronavirus that causes COVID-19, in collaboration with the Vaccine Research Center and Division of Microbiology and Infectious Diseases of the National Institute of Allergy and Infectious Diseases ("NIAID"), part of the National Institutes of Health ("NIH"). The Coalition for Epidemic Preparedness Innovations ("CEPI") has funded the Current Good

Manufacturing Practices (“cGMP”) manufacture of the Phase 1 clinical batches, and NIAID is conducting a Phase 1 clinical study of mRNA-1273 in the United States. The Phase 1 open-label study, which began on March 16, 2020, has completed enrollment of the original study: 45 healthy adult volunteers ages 18 to 55 years in three dose cohorts (25 µg, 100 µg and 250 µg).

Immunogenicity data are currently available for the 25 µg and 100 µg dose level (ages 18-55) after two doses (day 43) and at the 250 µg level (ages 18-55) after one dose (day 29). Dose dependent increases in immunogenicity were seen across the three dose levels, and between prime and boost within the 25 µg and 100 µg dose levels. All participants ages 18-55 (n=15 per cohort) across all three dose levels seroconverted by day 15 after a single dose. At day 43, two weeks following the second dose, at the 25 µg dose level (n=15), levels of binding antibodies were at the levels seen in convalescent sera (blood samples from people who have recovered from COVID-19) tested in the same assay. At day 43, at the 100 µg dose level (n=10), levels of binding antibodies significantly exceeded the levels seen in convalescent sera. Samples are not yet available for remaining participants.

At this time, neutralizing antibody data are available only for the first four participants in each of the 25 µg and 100 µg dose level cohorts. Consistent with the binding antibody data, mRNA-1273 vaccination elicited neutralizing antibodies in all eight of these participants, as measured by plaque reduction neutralization (PRNT) assays against live SARS-CoV-2. The levels of neutralizing antibodies at day 43 were at or above levels generally seen in convalescent sera.

mRNA-1273 was generally safe and well tolerated, with a safety profile consistent with that seen in prior Moderna infectious disease vaccine clinical studies. The sole incidence of a grade 3 adverse event in the 25 µg and 100 µg dose cohorts was a single participant at 100 µg who experienced grade 3 erythema (redness) around the injection site. To date, the most notable adverse events were seen at the 250 µg dose level, comprising three participants with grade 3 systemic symptoms, only following the second dose. All adverse events have been transient and self-resolving. No grade 4 adverse events or serious adverse events have been reported.

Preclinical results from a viral challenge study in mice conducted in collaboration with NIAID and its academic partners are also available. In this study, vaccination with mRNA-1273 prevented viral replication in the lungs of animals challenged with SARS-CoV-2. Neutralizing titers in Phase 1 clinical trial participants at the 25 µg and 100 µg dose levels were consistent with neutralizing titers that were protective in the mouse challenge model.

NIAID previously amended the original Phase 1 protocol to include an additional six cohorts: three cohorts of older adults (ages 56-70) and three cohorts of elderly adults (age 71 and above). Enrollment for these additional cohorts is ongoing. Based on the Phase 1 interim data described above, NIAID has advised us that the Phase 1 clinical study is being amended to include a 50 µg dose level cohort across each of the three age groups.

On April 27, 2020, we submitted an investigational new drug application (“IND”) to the U.S. Food and Drug Administration (“FDA”) to evaluate mRNA-1273 in Phase 2 and late stage studies if supported by safety data from the Phase 1 study. On May 6, 2020, the FDA completed its review of this IND and cleared us to proceed with the Phase 2 study, which is expected to begin shortly. The Phase 2 study will evaluate the safety, reactogenicity and immunogenicity of two vaccinations of mRNA-1273 given 28 days apart. We intend to enroll 600 healthy participants across two cohorts of adults ages 18-55 years (n=300) and older adults ages 55 years and above (n=300). The original protocol for the Phase 2 study provided that each participant would be assigned to receive placebo, a 50 µg or a 250 µg dose at both vaccinations; however, based on the interim Phase 1 data described above, we plan to amend the original Phase 2 protocol to instead study dose levels of 50 µg and 100 µg, with the aim of selecting a dose for pivotal studies. Participants will be followed through 12 months after the second vaccination.

We are also finalizing the protocol for the Phase 3 study of mRNA-1273. We currently anticipate the dose for the Phase 3 study to be between 25 µg and 100 µg and expect Phase 3 trial initiation in July 2020, subject to finalization of the clinical trial protocol.

On May 11, 2020, the FDA granted Fast Track designation for mRNA-1273. Fast Track is designed to facilitate the development and expedite the review of therapies and vaccines for serious conditions and fill an unmet medical need. Programs with Fast Track designation may benefit from early and frequent communication with the FDA, in addition to a rolling submission of the marketing application.

Significant capital investment is necessary to prepare for the clinical development, manufacturing and distribution of a vaccine at a scale necessary to meet demand in a global pandemic environment. In April, BARDA committed to fund up to $483 million to accelerate the clinical development and manufacturing process scale-up of mRNA-1273. Under the terms of the agreement, BARDA will fund the advancement of mRNA-1273 to FDA licensure and the scale-up of manufacturing processes. The agreement does not contemplate any product stockpiling.

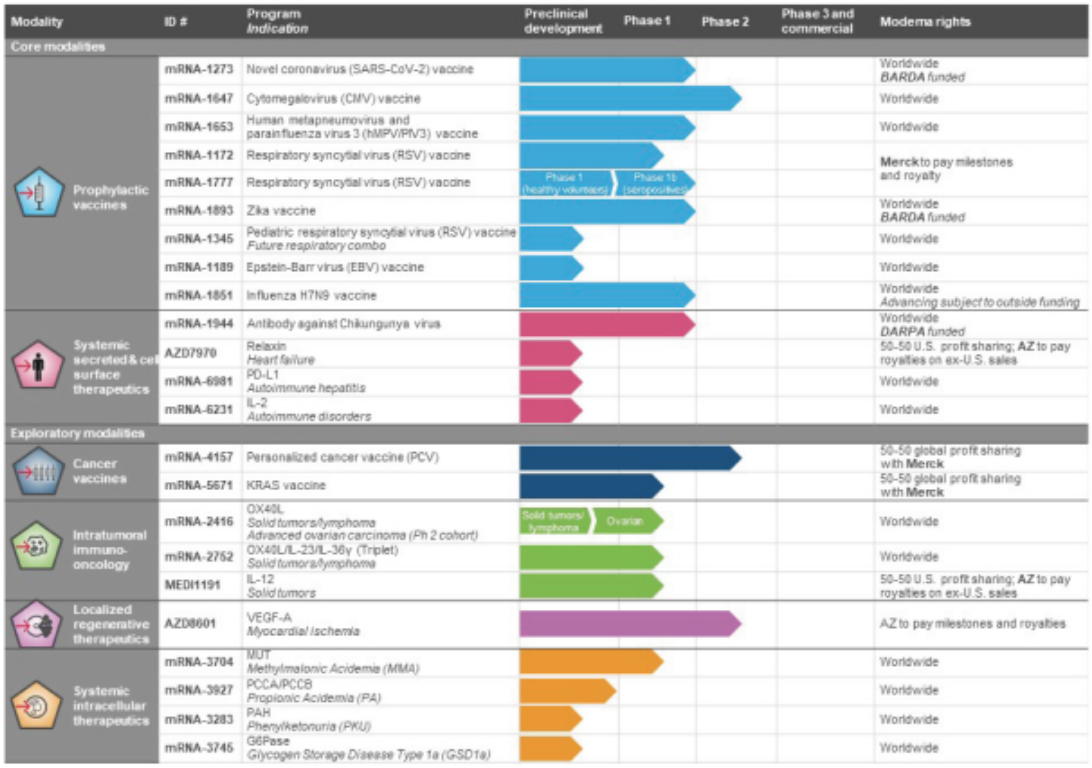
We expect to utilize the proceeds of this offering to fund working capital needs to begin manufacturing the vaccine ahead of a potential approval and launch of mRNA-1273. We believe the substantial majority of these investments will be used for raw material purchases and other operating expenses in connection with our mRNA-1273 program, which may result in up to approximately $1 billion of incremental investments in 2020.

As part of our preparation for wider-scale clinical development, manufacturing and distribution of mRNA-1273, if approved by the FDA, other global regulatory authorities or as otherwise authorized for interim emergency use, we intend to enter into a variety of potential contractual arrangements and collaborations with third parties. For example, on May 1, 2020, we entered into a ten year strategic collaboration agreement with Lonza Ltd. to enable larger scale manufacture of mRNA-1273 and additional Moderna products in the future. Under the terms of the agreement, we plan to establish manufacturing suites at Lonza's facilities in the United States and Switzerland for the manufacture of mRNA-1273 at both sites. Although the proceeds from this offering will help provide capital to fund our preparation activities, we continue to seek to collaborate with third parties in various ways, including through: (i) the entry into contracts for purchases of raw materials and consumable supplies, including those that contain provisions requiring exclusivity and contractual obligations to purchase a certain amount of material in a given period; (ii) contracts with governmental entities that contain provisions regarding future supply of an approved vaccine in exchange for payments, some of which may be made in advance of delivery, that will allow us to utilize such payments to further build out our manufacturing infrastructure and acquire raw materials; and (iii) contracts with one or more strategic collaborators that may assist in some or all of the development, manufacture, distribution, or storage of a vaccine in one or more jurisdictions. In addition, one or more of these contracts may be accompanied by an equity investment in or loan to us, which investment or loan may be used in the further development of mRNA-1273.

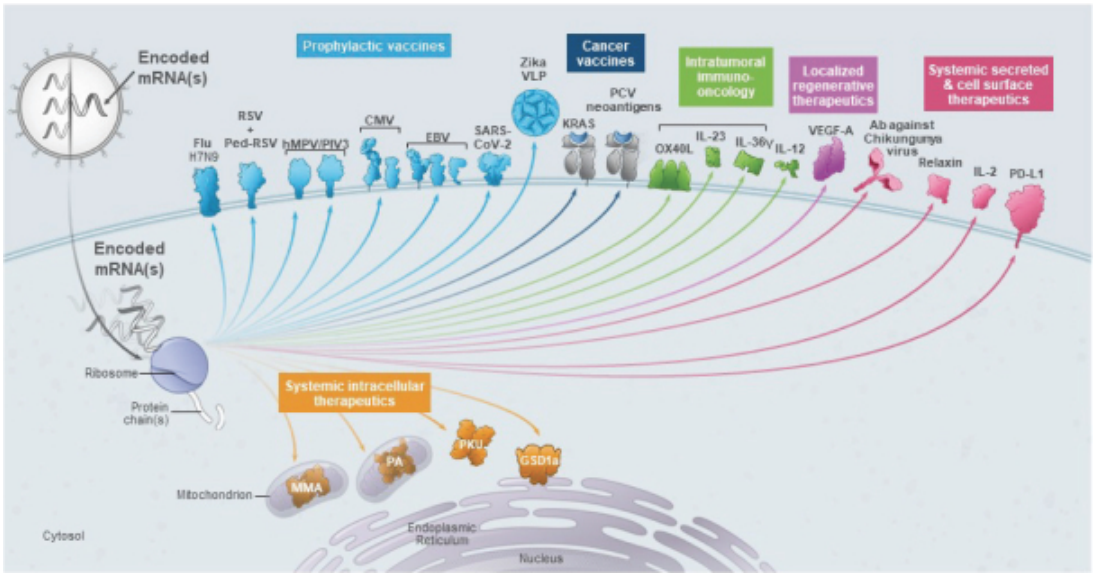
We remain focused on securing additional funding to continue preparation for larger scale vaccine manufacturing and distribution. This additional funding will help enable us to purchase the required capital equipment, hire appropriate global staff and secure the raw materials and other consumables necessary to produce up to one billion doses of mRNA-1273, assuming a 50 µg dose. We believe we are positioned to have the first or one of the first approved vaccines for COVID-19, which will give us an opportunity to have a global health impact.

Our Pipeline

The following chart shows our current pipeline of 23 development candidates across our 22 programs, grouped into modalities. Shown first are the two core modalities where we believe we have reduced the technology risk, followed by the four exploratory modalities in which we are continuing to investigate the clinical use of mRNA medicines.



The breadth of biology addressable using mRNA technology is reflected in our current development pipeline of 22 programs. These span 26 different proteins or protein complexes: 11 different antigens (including virus-like particles) for infectious disease vaccines; two different cancer vaccines, one personalized cancer vaccine addressing neoantigens and one for a shared cancer antigen; four different immuno-modulator targets (including membrane and systemically secreted proteins) for immuno-oncology programs; one secreted, local regenerative factor for a heart failure program; four secreted or cell surface proteins of diverse biology (an antibody, an engineered protein hormone, a secreted cytokine and a cell surface receptor); and four intracellular enzymes for rare disease programs. The diversity of proteins made from mRNA within our development pipeline is shown in the figure below.



We have developed six modalities, which are summarized as follows:

- **Prophylactic vaccines**: Our prophylactic vaccines modality currently includes eight programs, six of which have entered into clinical trials. Of these programs, we have demonstrated desired pharmacology, in the form of immunogenicity, in the positive Phase 1 clinical trials for the following seven programs: H10N8 vaccine (mRNA-1440), H7N9 vaccine (mRNA-1851), RSV vaccine (mRNA-1777), Chikungunya vaccine (mRNA-1388), human metapneumovirus (hMPV)/ parainfluenza virus type 3 (PIV3) vaccine (mRNA-1653), Zika vaccine (mRNA-1893) and CMV vaccine (mRNA-1647). We have an ongoing Phase 1 trial for the next generation Zika vaccine (mRNA-1893) and Merck is conducting a Phase 1 trial for an additional RSV vaccine (mRNA-1172). As described above, our SARS-CoV-2 vaccine (mRNA-1273) is in a Phase 1 study being run by the NIH and we have received FDA clearance to begin a Phase 2 study. In addition to the eight programs being developed, the H10N8 vaccine (mRNA-1440) and Chikungunya vaccine (mRNA-1388) are two public health programs that are not being further developed without government or other funding.
- **Systemic secreted therapeutics**: We have four systemic secreted and cell surface therapeutics development candidates in our pipeline. Our secreted programs include our antibody against Chikungunya virus (mRNA-1944), Relaxin (AZD7970) for the treatment of heart failure, and IL-2 (mRNA-6231) for autoimmune disorders. Our antibody against Chikungunya virus (mRNA-1944) has had positive Phase 1 readouts to date and is currently being evaluated in an ongoing Phase 1 dose escalation study in healthy adults that is randomized and placebo-controlled. The remaining programs

for Relaxin (AZD7970) and IL-2 (mRNA-6231) are currently in preclinical development. We have a cell surface therapeutic program in this modality, PDL-1 (mRNA-6981) for autoimmune hepatitis, which is currently in preclinical development.

- **Cancer vaccines**: We are currently developing two programs within our cancer vaccines modality. Our personalized cancer vaccine program mRNA-4157 is being developed in collaboration with Merck and is in a multiple-arm Phase 1 trial and a randomized Phase 2 trial. A second personalized cancer vaccine, NCI-4650 was being developed in collaboration with the National Cancer Institute, or NCI, and was in an investigator-initiated single-arm Phase 1 trial which has been completed. The two vaccines mRNA-4157 and NCI-4650 differ in the neoantigen selection protocols used, but are otherwise substantially the same. Our second program within this modality, mRNA-5671, is a KRAS vaccine. Our strategic collaborator Merck has a Phase 1 clinical trial ongoing for mRNA-5671.
- **Intratumoral immuno-oncology**: We have three programs in this modality. The first program in this modality, OX40L (mRNA-2416), was designed to overcome technological challenges in advancing this modality, including engineering the mRNA sequence to minimize off-target effects, utilizing our proprietary LNPs to enhance safety and tolerability, and to demonstrate expression of a membrane protein in patients. OX40L (mRNA-2416) is currently being evaluated in an ongoing Phase 1/2 trial in the United States, and protein expression has been demonstrated in a number of patients. Data from the monotherapy arm of this ongoing study of mRNA-2416 showed that mRNA-2416 was well-tolerated at all dose levels studied with the majority of adverse events reported as grade 1 and 2 and no grade 3 adverse events reported. This data supports the evaluation of intratumoral mRNA-2416 with the anti-PD-L1 inhibitor durvalumab in solid tumors, which is ongoing in Part B of this study with a focus on advanced ovarian carcinoma. Our second program, OX40L/IL-23/IL-36g (Triplet) (mRNA-2752), has dosed patients in a Phase 1 study for the treatment of advanced or metastatic solid tumor malignancies or lymphoma. Our third program, IL-12 (MEDI1191), is being developed in collaboration with AstraZeneca.
- **Localized regenerative therapeutics**: Our localized VEGF-A program, AZD8601, which is being developed by AstraZeneca, has completed a Phase 1a/b trial to describe its safety, tolerability, protein production, and activity in diabetic patients. The study has met its primary objectives of describing safety and tolerability and secondary objectives of demonstrating protein production and changes in blood flow post AZD8601 administration. In this trial, AZD8601 was administered by intradermal injection in the forearm skin of patients for single ascending doses. These data are consistent with studies previously conducted in preclinical models. We believe these data provide clinical proof of mechanism for our mRNA technology outside of the vaccine setting. AstraZeneca has initiated a Phase 2a study of AZD8601 for VEGF-A for ischemic heart disease in patients undergoing coronary artery bypass grafting (CABG) surgery with moderately impaired systolic function, and the trial is ongoing.
- **Systemic intracellular therapeutics**: We have four systemic intracellular therapeutics development candidates in our pipeline. Our intracellular programs address methylmalonic acidemia, or MMA (mRNA-3704), propionic acidemia, or PA (mRNA-3927), phenylketonuria, or PKU (mRNA-3283), and glycogen storage disorder type 1a, or GSD1a (mRNA-3745). We have an open IND for mRNA-3704 for a planned Phase 1/2 trial, and the FDA has also designated the investigation of mRNA-3704 for the treatment of isolated MMA due to MUT deficiency as a Fast Track development program. We have an open IND for mRNA-3927 for a planned Phase 1/2 trial and this program has also been designated as a Fast Track development program. PKU (mRNA-3283) is currently in preclinical development.

Company Information

We were incorporated under the laws of the State of Delaware on July 22, 2016. We are the successor in interest to Moderna LLC, a limited liability company formed under the laws of the State of Delaware in 2013. Moderna LLC was the successor in interest to Moderna Therapeutics, Inc., a Delaware corporation incorporated in 2009 as Newco LS18, Inc. by Flagship Pioneering. In August 2018, we changed our name from Moderna Therapeutics, Inc. to Moderna, Inc. Our principal corporate office is located at 200 Technology Square, Cambridge, MA 02139, and our telephone number is (617) 714-6500. Our website address is modernatx.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

The trademarks, trade names and services marks appearing in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

THE OFFERING

Common stock offered by us	shares of common stock.
Common stock outstanding following the offering	shares of common stock (or shares of common stock if the underwriter exercises its option to purchase additional shares of common stock in full) based on 370,102,805 shares of common stock outstanding as of March 31, 2020.
Underwriter's option to purchase additional shares of common stock	We have granted the underwriter an option to purchase up to an additional shares of common stock at the public offering price less the underwriting discount. The underwriter can exercise this option at any time within 30 days from the date of this prospectus.
Use of proceeds	We intend to use the net proceeds from this offering (i) to fund working capital needs (raw materials, labor and capital equipment purchases) related to the manufacturing of mRNA-1273 for distribution in the United States and outside the United States, assuming necessary regulatory approvals are obtained, and the remainder, if any (ii) to fund clinical development and drug discovery in existing and new therapeutic areas, (iii) to fund further development of our mRNA technology platform and the creation of new modalities, or (iv) to fund working capital and other general corporate purposes. See "Use of Proceeds" for additional information.
Risk factors	Investing in our common stock involves risks. See "Risk Factors" beginning on page 10 of this prospectus and other information included or incorporated by reference into this prospectus for a discussion of the factors you should carefully consider before deciding to invest in our securities.
Nasdaq Global Select Market symbol	"MRNA"

The number of shares of common stock to be outstanding after the offering is based on 370,102,805 shares outstanding as of March 31, 2020 and excludes:

- 22,078,150 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2020, at a weighted average exercise price of $11.04 per share;
- 2,062,092 shares of common stock issuable upon the vesting and settlement of restricted stock units that were outstanding as of March 31, 2020;
- 27,958,416 shares of our common stock reserved for future issuance under our 2018 Stock Option and Incentive Plan (the "2018 Stock Plan") as of March 31, 2020, plus any future increases in the number of shares of common stock reserved for issuance under the 2018 Stock Plan pursuant to the evergreen provision of the 2018 Stock Plan; and
- 3,878,657 shares of our common stock reserved for future issuance under our 2018 Employee Stock Purchase Plan (the "ESPP"), as of March 31, 2020, plus any future increases in the number of shares of common stock reserved for issuance under the ESPP pursuant to the evergreen provision of the ESPP.

Unless otherwise indicated, all information in this prospectus reflects or assumes the following:

- no exercise by the underwriter of its option to purchase up to additional shares of common stock in this offering; and
- no exercise of stock options after March 31, 2020.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Investors should carefully consider the risks described below and under the heading "Risk Factors" in our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q as well as other information in this prospectus and the documents incorporated by reference herein before deciding whether to invest in our securities. Such risks and uncertainties and those discussed below are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. If any of these risks occur, our business, financial condition and operating results could be harmed, the trading price of our common stock could decline and you could lose part or all of your investment.

The price of our common stock has been volatile and fluctuates substantially, which could result in substantial losses for stockholders.

Our stock price has been, and in the future may be, subject to substantial volatility. For example, our stock traded within a range of a high price of $68.49 and a low price of $11.54 per share for the period of December 7, 2018, our first day of trading on the Nasdaq Global Select Market, through May 15, 2020. In addition, upon opening of trading on May 18, 2020, shortly after our announcement of interim data from the Phase 1 clinical study of mRNA-1273, our stock price increased significantly above our historical high trading price. As a result of this volatility, our stockholders could incur substantial losses.

The stock market in general, and the market for biopharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above your initial purchase price. The market price for our common stock may be influenced by many factors, including:

- results of clinical trials of our investigational medicines or those of our competitors;
- the success of competitive products or technologies;
- commencement or termination of strategic alliances;
- 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 any of our investigational medicines or clinical development programs;
- the results of our efforts to discover, develop, acquire, or in-license additional investigational medicines;
- 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;
- general economic, industry, and market conditions;
- the numerous programs in our pipeline, the development of which could each generate news or significant adverse events that could impact financial results or recommendations by securities analysts; and
- public announcements by us or our strategic collaborators regarding the progress of our development candidates or investigational medicines or similar public announcements by our competitors.

If our quarterly or annual results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly or annual fluctuations in our results may, in turn, cause the price of our stock to fluctuate substantially. We believe that period-to-period comparisons of our results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

In addition, public statements by us, government agencies, the media or others relating to the coronavirus outbreak (including regarding efforts to develop a coronavirus vaccine) have in the past resulted, and may in the future result, in significant fluctuations in our stock price. Given the global focus on the coronavirus outbreak, any information in the public arena on this topic, whether or not accurate, could have an outsized impact (either positive or negative) on our stock price. Information related to our development, manufacturing and distribution efforts with respect to mRNA-1273, or information regarding such efforts by competitors with respect to their potential vaccines, may also impact our stock price.

Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including the other factors discussed in our filings incorporated by reference herein or in future periodic reports; variations in our quarterly operating results from our expectations or those of securities analysts or investors; downward revisions in securities analysts' estimates; and announcement by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments.

In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation often has been instituted against that company. Such litigation, if instituted against us, could cause us to incur substantial costs to defend such claims and divert management's attention and resources, which could seriously harm our business, financial condition and results of operations and prospects.

We have broad discretion in the use of our cash, cash equivalents, and investments, including the net proceeds from this offering, and may not use them effectively.

Our management will have broad discretion in the application of our cash, cash equivalents, and investments, including the net proceeds from this offering, and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. Furthermore, our operating expenses have significantly increased due to development and manufacturing activities for our mRNA-1273 program, and we may not deploy our expanded capital base effectively. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse impact on our business, cause the price of our common stock to decline, and delay the development of our investigational medicines. Pending their use, we may invest our cash, cash equivalents, and investments, including the net proceeds from this offering, in a manner that does not produce income or that loses value. See the section titled "Use of Proceeds" appearing elsewhere in this prospectus.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

If you purchase common stock in this offering, you will incur immediate and substantial dilution of $ per share after giving effect to the sale by us of shares of common stock offered in this offering at the public offering price of $ per share, and after deducting underwriting discounts and commissions for shares sold in the public offering and estimated offering expenses payable by us. The exercise of outstanding stock options and warrants may result in further dilution of your investment. See the section titled "Dilution" appearing elsewhere in this prospectus for a more detailed description of the dilution to new investors in the offering.

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

Sales of a substantial number of shares of our common stock in the public market could occur at any time, subject to certain restrictions described below. These sales, or the perception in the market that holders of a large

number of shares intend to sell shares, could reduce the market price of our common stock. A decline in the price of shares of our common stock might impede our ability to raise capital through the issuance of additional shares of our common stock or other equity securities.

In connection with this offering, we, all of our directors and officers, and certain of our stockholders have entered into lock-up agreements with the underwriter under which they agreed, subject to specific exceptions, not to sell any shares of our common stock for at least 30 days following the date of this offering. See the section titled “Underwriting” appearing elsewhere in this prospectus.

In addition, the holders of up to 61.6 million shares of our common stock are entitled to rights with respect to the registration of their shares under the Securities Act. 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 held by affiliates, as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

Additionally, the number of shares of our common stock reserved for issuance under our 2018 Stock Plan automatically increased on January 1, 2020 and will automatically increase each January 1 thereafter by 4% of the number of shares of common stock outstanding on the immediately preceding December 31 or such lesser number of shares determined by our compensation committee. Unless our board of directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution.

In addition, certain of our employees, executive officers, and directors have entered or may enter into Rule 10b5-1 trading plans providing for sales of shares of our common stock from time to time. Under a Rule 10b5-1 trading plan, a broker executes trades pursuant to parameters established by the employee, director, or officer when entering into the plan, without further direction from the employee, officer, or director. A Rule 10b5-1 trading plan may be amended or terminated in some circumstances. Our employees, executive officers, and directors also may buy or sell additional shares outside of a Rule 10b5-1 trading plan when they are not in possession of material, nonpublic information, subject to the expiration of the lock-up agreements described in “Underwriting” herein.

We are devoting significant resources to the scale-up and development of mRNA-1273, including for use by the U.S. government and other global governmental and commercial partners.

We are working toward the large scale technical development, manufacturing scale-up in several countries and larger scale deployment of this potential vaccine. The number of doses of this potential vaccine that we are able to produce is dependent on our ability, and the ability of our contract manufacturers, to successfully and rapidly scale-up manufacturing capacity. The number of doses that we will be able to produce is also dependent in large part on the dosage of the vaccine required to be administered to patients which will be determined in our clinical trials. To support the scale-up, we will need to expend significant resources and capital. We may need to, or we may be required by the federal government to, divert resources and capital from our other programs. Although this offering will provide a source of capital to support our mRNA-1273 program, we will also need to seek and secure significant additional funding through a variety of potential contractual arrangements and collaborations with third parties. We may be unable to enter such arrangements on favorable terms, or at all, which would adversely affect our ability to develop, manufacture and distribute a potential vaccine.

As part of this effort we received a commitment from BARDA to fund up to $483 million to enable the initiation of a Phase 2 clinical trial of mRNA-1273 under our own IND in the second quarter of 2020, as well as the scale-up of mRNA-1273 manufacture in 2020 to enable potential pandemic response. To the extent our funding collaborators have discretion over the distribution of funding commitments, we may not ultimately receive the full amount of committed funds and could be exposed to urgent needs for additional funding to support our manufacturing activities. Our funding collaborators may also impose restrictions on or mandate input as to our

conduct of clinical trials, manufacturing activities or distribution activities, which may cause delays in the event of disagreement.

In addition, since the path to licensure of any vaccine against COVID-19 is unclear, we may have a widely used vaccine in circulation in the United States or another country prior to our receipt of marketing approval. Unexpected safety issues, including any that we have not yet observed in our Phase 1 clinical study for mRNA-1273, could lead to significant reputational damage for Moderna and our technology platform going forward and other issues, including delays in our other programs, the need for re-design of our clinical trials and the need for significant additional financial resources. Given the rapidity of both the onset of the COVID-19 pandemic and our development efforts with respect to mRNA-1273, as well as the complexity of the economics of a pandemic vaccine, we are only in the early stages of considering how to price a potential vaccine and cannot provide assurance as to the ultimate impact of our mRNA-1273 program on our company.

The regulatory pathway for mRNA-1273 is continually evolving, and may result in unexpected or unforeseen challenges.

To date, mRNA-1273 has moved rapidly through the FDA regulatory review and approval process. The speed at which all parties are acting to create and test many therapeutics and vaccines for COVID-19 is unusual, and evolving or changing plans or priorities within the FDA, including changes based on new knowledge of COVID-19 and how the disease affects the human body, may significantly affect the regulatory timeline for mRNA-1273. Results from clinical testing may raise new questions and require us to redesign proposed clinical trials, including revising proposed endpoints or adding new clinical trial sites or cohorts of subjects. For example, while we initially intended to include a 50 µg and a 250 µg dose in our Phase 2 trial for mRNA-1273, we have decided to include a 50 µg and a 100 µg dose. In addition, discussions with FDA regarding the design of the anticipated Phase 3 study for mRNA-1273 are ongoing and important aspects of the trial design have yet to be determined, including the number of patients to be enrolled in the study, the specific endpoints of the trial and the methods for obtaining and testing samples in the trial. The incidence of COVID-19 in the communities where the Phase 3 study participants reside will vary across different locations. If the overall incidence of COVID-19 in the Phase 3 study is low, it may be difficult for this study to demonstrate differences in infection rates between participants in the study who receive placebo and participants in the study who receive mRNA-1273.

The FDA has the authority to grant an Emergency Use Authorization to allow unapproved medical products to be used in an emergency to diagnose, treat, or prevent serious or life-threatening diseases or conditions when there are no adequate, approved, and available alternatives. If we are granted an Emergency Use Authorization for mRNA-1273, we would be able to commercialize mRNA-1273 prior to FDA approval. Furthermore, the FDA may revoke an Emergency Use Authorization where it is determined that the underlying health emergency no longer exists or warrants such authorization, and we cannot predict how long, if ever, an Emergency Use Authorization would remain in place. Such revocation could adversely impact our business in a variety of ways, including if mRNA-1273 is not yet approved by the FDA and if we and our manufacturing partners have invested in the supply chain to provide mRNA-1273 under an Emergency Use Authorization.

Our internal computer systems and physical premises, or those of our strategic collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs and our manufacturing operations.

Our internal computer systems and those of our current and any future strategic collaborators, vendors, and other contractors or consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, cybersecurity threats, war, and telecommunication and electrical failures. We have experienced, and may experience in the future, cyber-attacks on our information technology systems by threat actors of all types (including but not limited to nation states, organized crime, other criminal enterprises, individual actors and/or advanced persistent threat groups). In addition, we may experience intrusions on our physical premises by any of these threat actors. If any such cyber-attack or physical intrusion were to cause

interruptions in our operations, such as a material disruption of our development programs or our manufacturing operations, whether due to a loss of our trade secrets or other proprietary information it would have a material and adverse effect on us. For example, the loss of clinical trial data from one or more ongoing or completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. In addition, because of our approach to running multiple clinical trials in parallel, any breach of our computer systems or physical premises may result in a loss of data or compromised data integrity across many of our programs in many stages of development. Any such breach, loss, or compromise of clinical trial participant personal data may also subject us to civil fines and penalties or claims for damages, either under the General Data Protection Regulation ("GDPR") and relevant member state law in the EU, other foreign laws, and the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), and other relevant state and federal privacy laws in the United States including the California Consumer Privacy Act ("CCPA"). On May 13, 2020, the Federal Bureau of Investigation ("FBI") and Cybersecurity and Infrastructure Security Agency ("CISA") announced that the FBI is investigating the targeting and compromise of U.S. organizations conducting COVID-19-related research by People's Republic of China ("PRC")-affiliated cyber actors. 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, including but not limited to information related to our rapid manufacture of our vaccine candidate for the treatment of SARS-CoV-2, the novel strain of coronavirus that causes COVID-19, we could incur liability, our competitive and reputational position could be harmed, and the further development and commercialization of our investigational medicines could be delayed.

The positive interim data from the ongoing Phase 1 study of mRNA-1273, our vaccine candidate for the treatment of SARS-CoV-2, may not be predictive of the results of later-stage clinical trials, which is one of a number of factors that may delay or prevent us from receiving regulatory approval of our vaccine candidate.

The positive early interim data we announced from the ongoing Phase 1 study of mRNA-1273 was based on only the limited number of subjects enrolled in the first phase of the Phase 1 clinical study. For example, the neutralizing antibody data is based on only 4 subjects at day 43 in each of the 25 µg and 100 µg dose cohorts in our Phase 1 study. Further results from the ongoing Phase 1 study or any interim results of our planned Phase 2 or Phase 3 studies for mRNA-1273 could show diminished efficacy as compared to the interim Phase 1 study results or that the neutralizing antibodies are not sufficiently durable without repeated boosting. We also may observe new, more frequent or more severe adverse events in subjects participating in these clinical studies. In addition, the interpretation of the data from our clinical trials of mRNA-1273 by FDA and other regulatory agencies may differ from our interpretation of such data and the FDA or other regulatory agencies may require that we conduct additional studies or analyses. Further, the assays being used to measure and analyze the effectiveness of vaccines being developed to treat SARS-CoV-2 have only recently been developed and are continuing to evolve. The validity and standardization of these assays has not yet been established, and the results obtained in clinical studies of mRNA-1273 with subsequent versions of these assays may be less positive than the results we have obtained to date. Moreover, the samples of convalescent sera, or blood samples from people who have recovered from COVID-19, used to benchmark the level of antibodies produced by subjects receiving mRNA-1273 in clinical studies, have been taken from a small number of people and may not be representative of the antibody levels in a broader population of people who have recovered from COVID-19. The future results in clinical studies of mRNA-1273 may not be as positive when compared to the antibody levels in other samples of convalescent sera. Various preclinical animal studies of mRNA-1273 are ongoing, including preclinical studies in non-human primates. If safety data observed in these preclinical studies are inconsistent with safety data from clinical studies, we may be required to conduct additional studies of mRNA-1273. Any of these factors could delay or prevent us from receiving regulatory approval of mRNA-1273 and there can be no assurance that mRNA-1273 will be approved in a timely manner, if at all.

The amount of and our ability to use net operating losses and research and development credits to offset future taxable income may be subject to certain limitations and uncertainty.

As of December 31, 2019, we had federal and state net operating loss carryforwards of $981.8 million and $978.8 million, respectively, a portion of which will begin to expire in 2030. As of December 31, 2019, we also

had federal and state research and development tax credit carryforwards of $45.6 million and $23.9 million, respectively, which begin to expire in 2030 and 2029, respectively. These net operating loss and tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities. Federal net operating losses generated in taxable years beginning after December 31, 2017 generally may not be carried back to prior taxable years, and while such federal net operating losses generated in taxable years beginning after December 31, 2017 will not be subject to expiration, the deduction for such net operating loss in any taxable year will be limited to 80% of our taxable income in such year, where taxable income is determined without regard to the net operating loss deduction itself. However, the Coronavirus Aid, Relief and Economic Security Act repeals the 80% limitation on the utilization of such federal net operating losses for taxable years beginning after December 31, 2017 and beginning before January 1, 2021 and allows for federal net operating losses generated in taxable years beginning after December 31, 2017 and before January 1, 2021 to be carried back to each of the five taxable years preceding the taxable year in which the loss arises. This change in law temporarily allowing for the carryback of federal net operating losses is not expected to produce any material benefit for the issuer. In general, under Sections 382 and 383 of the Code, a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its pre-change net operating losses, or NOLs or tax credits, or credits (including federal research and development tax credits), to offset future taxable income or taxes. For these purposes, an ownership change generally occurs where the aggregate stock ownership of one or more stockholders or groups of stockholders who owns at least 5% of a corporation’s stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. As of December 31, 2019, none of our NOLs or credits will expire due to Sections 382 and 383. However, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code and limit our ability to utilize our NOLs and credits. Our NOLs or credits may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs or credits. In addition, the rules regarding timing of revenue and expense recognition for tax purposes in connection with various transactions we have undertaken are complex and uncertain in various respects and could be subject to challenge by taxing authorities. In the event any such sustained our net operating losses could be materially reduced and/or we could be determined to be a material cash taxpayer for one or more years. Furthermore, our ability to utilize our NOLs or credits is conditioned upon our attaining profitability and generating U.S. federal and state taxable income. As described above we have incurred significant net losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future, and therefore, we do not know whether or when we will generate the U.S. federal or state taxable income necessary to utilize our NOL or credit carryforwards.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference herein contain express or implied forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, those described under "Risk Factors" and include, among other things:

- the offering and our anticipated use of proceeds from this offering;
- the initiation, timing, progress, results, safety and efficacy, and cost of our research and development programs and our current and future preclinical studies and clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available, and our research and development programs;
- the ultimate impact of the current coronavirus pandemic, or any other health epidemic, on our business, our clinical trials, our research programs, healthcare systems or the global economy as a whole;
- our activities with respect to mRNA-1273, our investigational vaccine against the novel coronavirus, including our plans and expectations regarding clinical development, manufacturing and potential third-party arrangements;
- our anticipated next steps for our development candidates and investigational medicines, which may be slowed down due to the impact of the coronavirus pandemic including our resources being significantly diverted towards mRNA-1273, including if the federal government seeks to require us to divert such resources;
- our ability to identify research priorities and apply a risk-mitigated strategy to efficiently discover and develop development candidates and investigational medicines, including by applying learnings from one program to our other programs and from one modality to our other modalities;
- our ability and the potential to successfully manufacture our drug substances, delivery vehicles, development candidates, and investigational medicines for preclinical use, for clinical trials and on a larger scale for commercial use, if approved;
- the ability and willingness of our third-party strategic collaborators to continue research and development activities relating to our development candidates and investigational medicines;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our investigational medicines;
- our ability to obtain and maintain regulatory approval of our investigational medicines;
- our ability to commercialize our products, if approved;
- the pricing and reimbursement of our investigational medicines, if approved;
- the implementation of our business model, and strategic plans for our business, investigational medicines, and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our investigational medicines and technology;
- estimates of our future expenses, revenues, capital requirements, and our needs for additional financing;

- the potential benefits of strategic collaboration agreements, our ability to enter into strategic collaborations or arrangements, and our ability to attract collaborators with development, regulatory and commercialization expertise;
- future agreements with third parties in connection with the commercialization of our investigational medicines, if approved;
- the size and growth potential of the markets for our investigational medicines, and our ability to serve those markets;
- our financial performance;
- the rate and degree of market acceptance of our investigational medicines;
- regulatory developments in the United States and foreign countries;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- our ability to produce our products or investigational medicines with advantages in turnaround times or manufacturing cost;
- the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- the impact of laws and regulations; and
- developments relating to our competitors and our industry.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus and the documents incorporated by reference herein, particularly in the “Risk Factors” section, that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make or enter into.

You should read this prospectus and the documents incorporated by reference herein, as well as the documents that we have filed as exhibits to the registration statement of which this prospectus forms a part, completely and with the understanding that our actual future results, performance or achievements may be materially different from what we expect. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This prospectus and the documents incorporated by reference herein contains industry, market and competitive position data that are based on industry publications and studies conducted by third parties as well as our own internal estimates and research. These industry publications and third-party studies generally state that the information that they contain has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe these industry publications and third-party research, surveys and studies are reliable.

USE OF PROCEEDS

We expect to receive net proceeds of approximately $ million from this offering, or approximately $ million if the underwriter exercises in full its option to purchase up to an additional shares of common stock, in each case, after deducting underwriting discounts and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering (i) to fund working capital needs (raw materials, labor and capital equipment purchases) related to the manufacturing of mRNA-1273 for distribution in the United States and outside the United States, assuming necessary regulatory approvals are obtained and the remainder, if any, (ii) to fund clinical development and drug discovery in existing and new therapeutic areas, (iii) to fund further development of our mRNA technology platform and the creation of new modalities, or (iv) to fund working capital and other general corporate purposes.

Our expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above and we expect that we will require additional funds in order to fully accomplish the specified uses of the proceeds of this offering. We may also use a portion of the net proceeds to in-license, acquire, or invest in complementary businesses or technologies to continue to build our pipeline, research and development capabilities and our intellectual property position, although we currently have no agreements or commitments with respect to any such transaction.

Due to the many inherent uncertainties in the development of our mRNA medicines, especially our mRNA-1273 vaccine candidate, the amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our research and development, the timing of patient enrollment and evolving regulatory requirements, the timing and success of preclinical studies, our ongoing clinical studies or clinical studies we may commence in the future, the timing of regulatory submissions, any strategic alliances that we may enter into with third parties for our investigational medicines or strategic opportunities that become available to us, and any unforeseen cash needs.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term and long-term interest-bearing instruments, investment-grade securities, and direct or guaranteed obligations of the U.S. government. We cannot predict whether the proceeds invested will yield a favorable return. Our management will retain broad discretion in the application of the net proceeds we receive from this public offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the price per share of common stock in this offering and the as adjusted net tangible book value per share of common stock immediately after this offering.

Our historical net tangible book value as of March 31, 2020 was approximately $1.6 billion, or $4.43 per share of our common stock. Our historical net tangible book value is the amount of our total tangible assets less our total liabilities. Historical net tangible book value per share represents historical net tangible book value divided by the 370,102,805 shares of our common stock outstanding as of March 31, 2020.

After giving effect to the sale of shares of common stock in this offering at the public offering price of $ per share, and after deducting underwriting discounts and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2020 would have been approximately $ billion, or approximately $ per common share. This represents an immediate increase in as adjusted net tangible book value of $ per share to our existing shareholders and an immediate dilution of $ per share to investors participating in this offering.

Dilution per share to new investors is determined by subtracting net tangible book value per share after this offering from the public offering price per share paid by new investors. The following table illustrates this per share dilution (assuming the underwriter does not exercise in full its option to purchase additional shares):

Public offering price per share		$
Historical net tangible book value per share as of March 31, 2020	$4.43	
Increase in net tangible book value per share attributable to new investors	$	
As adjusted net tangible book value per share after this offering		$
Dilution per share to new investors		$

The foregoing table and discussion is based on 370,102,805 shares outstanding as of March 31, 2020 and excludes:

- 22,078,150 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2020, at a weighted average exercise price of $11.04 per share;
- 2,062,092 shares of common stock issuable upon the vesting and settlement of restricted stock units that were outstanding as of March 31, 2020;
- 27,958,416 shares of our common stock reserved for future issuance under the 2018 Stock Plan as of March 31, 2020, plus any future increases in the number of shares of common stock reserved for issuance under the 2018 Stock Plan pursuant to the evergreen provision of the 2018 Stock Plan; and
- 3,878,657 shares of our common stock reserved for future issuance under the ESPP as of March 31, 2020, plus any future increases in the number of shares of common stock reserved for issuance under the ESPP pursuant to the evergreen provision of the ESPP.

If the underwriter exercises in full its option to purchase up to an additional shares of common stock at the public offering price of $ per share, the as adjusted net tangible book value after this offering would be $ per share, representing an increase in the as adjusted net tangible book value of $ per share to existing shareholders and immediate dilution in net tangible book value of $ per share to investors purchasing our common stock in this offering.

To the extent that any options are exercised or restricted stock units vest, new options or restricted stock units are issued under our equity incentive plans, or we otherwise issue additional shares of common stock in the future (including shares issued in connection with acquisitions), there will be further dilution to new investors.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

DIVIDEND POLICY

We currently intend to retain all available funds and any future earnings to fund the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions, and other factors that our board of directors may deem relevant.

DESCRIPTION OF CAPITAL STOCK

The following descriptions are summaries of the material terms of our amended and restated certificate of incorporation and amended and restated bylaws and are qualified by reference to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed with the SEC and are incorporated by reference as exhibits to the registration statement of which this prospectus is a part. We refer in this section to our amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated bylaws as our bylaws. The terms of our common stock and preferred stock may also be affected by Delaware law.

Authorized capital stock

Our authorized capital stock consists of 1,600,000,000 shares of common stock, par value $0.0001 per share, and 162,000,000 shares of preferred stock, par value $0.0001 per share, all of which shares of preferred stock are undesignated.

As of March 31, 2020, 370,102,805 shares of our common stock were outstanding and held by 125 stockholders of record. The 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 shares may be held in trust by other entities.

Common stock

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Preferred stock

Our board of directors has the authority, without further action by our stockholders, to issue up to 162,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our Company or other corporate action. We have no shares of preferred stock outstanding, and we have no present plan to issue any shares of preferred stock.

Registration rights

The holders of up to 61.6 million shares of our common stock are entitled to rights with respect to the registration of such securities under the Securities Act pursuant to the terms of our second amended and restated investors’

rights agreement, or the Investor Rights Agreement. The Investor Rights Agreement includes demand registration rights, short-form registration rights, and piggyback registration rights. All fees, costs and expenses of underwritten registrations under the Investor Rights Agreement will be borne by us and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

Demand registration rights

The holders of up to 61.6 million shares of our common stock are entitled to demand registration rights. Under the terms of the Investor Rights Agreement, we are required, upon the written request of either (i) a majority of holders of these securities or (ii) AstraZeneca PLC and its affiliates that, in either case, would result in an aggregate offering price of at least $5.0 million, to file a registration statement and to use commercially reasonable efforts to effect the registration of all or a portion of these shares for public resale. We are required to effect only two registrations upon the request of a majority of holders and one registration upon the request of AstraZeneca or its affiliates pursuant to this provision of the Investor Rights Agreement.

Short-form registration rights

The holders of up to 61.6 million shares of our common stock are also entitled to short-form registration rights. Pursuant to the Investor Rights Agreement, if we are eligible to file a registration statement on Form S-3, upon the written request of 20% in interest of these holders to sell registrable securities at an aggregate price of at least $2.5 million, we will be required to use commercially reasonable efforts to effect a registration of such shares. We are required to effect only two registrations in any twelve month period pursuant to this provision of the Investor Rights Agreement.

Piggyback registration rights

The holders of up to 61.6 million shares of our common stock are entitled to piggyback registration rights. If we register any of our securities either for our own account or for the account of other security holders, the holders of these shares are entitled to include their shares in the registration. Subject to certain exceptions contained in the Investor Rights Agreement, we and the underwriter may limit the number of shares included in the underwritten offering to the number of shares which we and the underwriter determine in our sole discretion will not jeopardize the success of the offering.

Indemnification

The Investor Rights Agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expiration of registration rights

The demand registration rights and short-form registration rights granted under the Investor Rights Agreement will terminate on the fifth anniversary of the completion of our initial public offering.

Anti-takeover effects of our certificate of incorporation and bylaws and Delaware Law

Our certificate of incorporation and bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board composition and filling vacancies

Our certificate of incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of $66^{2}/_{3}\%$ or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No written consent of stockholders

Our certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of stockholders

Our certificate of incorporation and bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance notice requirements

Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to certificate of incorporation and bylaws

Any amendment of our certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, and limitation of liability must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of a majority of the outstanding shares entitled to vote on the amendment, voting together as a single class, except that the amendment of the provisions relating to notice of stockholder business and nominations and special meetings must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote

thereon as a class, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated preferred stock

Our certificate of incorporation provides for 162,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and

- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Nasdaq Global Select Market listing

Our common stock is listed on the Nasdaq Global Select Market under the trading symbol “MRNA.”

Transfer agent and registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

UNDERWRITING

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriter named below has agreed to purchase, and we have agreed to sell to the underwriter, the number of shares indicated below:

Underwriter	Number of Shares
Morgan Stanley & Co. LLC	
Total	

The underwriter is offering the shares of common stock subject to its receipt and acceptance of the shares from us and subject to prior sale. The offering of the shares by the underwriter is also subject to the underwriter's right to reject any order in whole or in part. The underwriting agreement provides that the obligations of the underwriter to pay for and accept delivery of the shares of common stock offered by this prospectus is subject to the approval of certain legal matters by its counsel and to certain other conditions. The underwriter is obligated to take and pay for all of the shares of common stock offered by this prospectus, if any such shares are taken. However, the underwriter is not required to take or pay for the shares covered by the underwriter's option to purchase additional shares described below.

The underwriter initially proposes to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus supplement and part to certain dealers at a price that represents a concession not in excess of $ per share under the public offering price. After the initial offering of the shares of common stock, the offering price, and other selling terms may from time to time be varied by the underwriter.

We have granted to the underwriter an option, exercisable for 30 days from the date of this prospectus supplement, to purchase up to additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriter's option to purchase up to additional shares of common stock.

	Per Share	Total	
		No Exercise	Full Exercise
Public offering price	$	$	$
Underwriting discounts and commissions:	$	$	$
Proceeds, before expenses, to us	$	$	$

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $. We have agreed to reimburse the underwriter for expense relating to clearance of this offering with the Financial Industry Regulatory Authority ("FINRA") up to $30,000.

The underwriter has informed us that it does not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by it.

Our common stock is listed on the Nasdaq Global Select Market under the trading symbol "MRNA."

We, all of our directors and officers, and certain holders of our capital stock and securities convertible into or exchangeable for our capital stock have entered into lock-up agreements with the underwriter or other

agreements with us under which they agreed, subject to specific exceptions, that without the prior written consent of the underwriter, we and they will not, during the period ending at least 30 days (the "restricted period"), after the date of this prospectus:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock,

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agree that, without the prior written consent of the underwriter, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph do not apply to certain transfers, dispositions or transactions, including:

a) transactions relating to shares of common stock or other securities acquired in the offering or in open market transactions after the pricing of the offering; *provided* that no filing under Section 16(a) of the Exchange Act shall be required or shall be voluntarily made in connection with subsequent sales of common stock or other securities acquired in such open market transactions;

b) transfers of shares of common stock or other securities as a bona fide gift, or to a charitable organization or educational institution in a transaction not involving a disposition for value;

c) transfers or dispositions of shares of common stock or other securities to any member of the immediate family of the director or officer or any trust for the direct or indirect benefit of such director or officer or his or her immediate family in a transaction not involving a disposition for value;

d) transfers or dispositions of shares of common stock or other securities to any corporation, partnership, limited liability company, or other entity, all of the beneficial ownership interests of which are held by the holder or his or her immediate family in a transaction not involving a disposition for value;

e) transfers or dispositions of shares of common stock or other securities (x) by will, other testamentary document, or intestate succession to the legal representative, heir, beneficiary, or a member of the immediate family of the holder upon the death of the holder, or (y) by operation of law pursuant to orders of a court, a domestic order, or negotiated divorce settlement;

f) if the holder is an entity, (x) transfers or dispositions of shares of common stock or other securities to another corporation, member, partnership, limited liability company, trust, or other entity that is a direct or indirect affiliate (as defined under Rule 12b-2 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") of the holder, or to an investment fund or other entity that controls or manages, or is under common control with, the holder, or (y) distributions of shares of common stock or other securities to partners, members, stockholders, beneficiaries, or other equity holders of the holder;

provided, that (i) in the case of any transfer, disposition or distribution pursuant to clause (b), (c), (d), (e) or (f), each transferee, donee or distributee shall sign and deliver a lock-up letter substantially in the form of the lock-up agreement applicable to the transferor, donor or distributor (except solely with respect to clause (b), donees of transfers of up to an aggregate of $1,000,000 of shares of common stock), and

(ii) in the case of any transfer, disposition or distribution pursuant to clause (b), (c), (d), (e) or (f), no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of common stock, shall be required or shall be voluntarily made during the restricted period (other than, in the case of a transfer or other disposition pursuant to clause (e) above, any Form 4 or Form 5 required to be filed under the Exchange Act if the holder is subject to Section 16 reporting with respect to us under the Exchange Act and indicating by footnote disclosure or otherwise the nature of the transfer or disposition);

g) transactions relating to shares of common stock or other securities acquired in this offering acquired in open market transactions after the pricing of the offering of the shares of common stock in this offering; provided that no filing under Section 16 of the Exchange Act shall be required or shall be voluntarily made in connection with subsequent sales of common stock or other securities acquired in such open market transactions;

h) transfers or dispositions of shares of common stock or other securities in connection with the conversion of any convertible security into, or the exercise of any option or warrant for, shares of common stock (including, in each case, by way of "net" or "cashless" exercise and/or to cover withholding tax obligations in connection with such exercise and any transfer to the Company for the payment of taxes as a result of such vesting or exercise, whether by means of a "net settlement" or otherwise), *provided* that (i) any such shares of common stock received by the holder shall be subject to the terms of such lock-up agreement and (ii) no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares of common stock shall be required or shall be voluntarily made during the restricted period (other than a filing on a Form 4 that reports such disposition under the transaction code "F");

i) transfers or dispositions of shares of common stock or any security convertible into or exercisable or exchangeable for shares of common stock to the Company pursuant to any contractual arrangement in effect on the date of such lock-up agreement that provides for the repurchase of the holder's shares of common stock or other securities by the Company or in connection with the termination of such holder's employment with or service to the Company; provided that no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares of common stock, shall be required or shall be voluntarily made during the restricted period in connection with any such transfers or dispositions (other than any Form 4 or Form 5 required to be filed under the Exchange Act if the holder is subject to Section 16 reporting with respect to the Company under the Exchange Act and indicating by footnote disclosure or otherwise the nature of the transfer or disposition);

j) transfers or dispositions of shares of common stock or other securities to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (a) through (h) above;

k) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock ("10b5-1 Plan"); provided that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the holder or the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of shares of common stock may be made under such plan during the restricted period;

l) transfers of shares of common stock by the holder pursuant to a 10b5-1 Plan established prior to the date hereof, which 10b5-1 plan shall not be amended during the restricted period but may be terminated during the restricted period; *provided*, that to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the holder or the Company regarding sales made under the holder's 10b5-1 Plan, such announcement or filing shall include a statement to the effect that such sales of common stock are being made pursuant to the holder's 10b5-1 Plan established prior to the date hereof;

m) transfers or dispositions of shares of common stock or such securities pursuant to a bona fide tender offer for shares of the Company's capital stock, merger, consolidation or other similar transaction made to all holders of the Company's securities involving a change of control of the Company (including without limitation, the entering into of any lock-up, voting or similar agreement pursuant to which the holder may agree to transfer, sell, tender or otherwise dispose of shares or other securities in connection with such transaction) that has been approved by the board of directors of the Company; *provided* that, in the event that such change of control transaction is not consummated, the requirements described in this clause (k) shall not be applicable and the holder's shares and other securities shall remain subject to the restrictions contained in such lock-up agreement; or

n) the transfer or sale of up to an aggregate of 1,000,000 shares of common stock by certain stockholders.

The underwriter, in its discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

In order to facilitate the offering of the common stock, underwriters or agents may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. These transactions may include over-allotment, stabilizing transactions, syndicate covering transactions and penalty bids. Specifically, the underwriter may sell more shares than it is obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriter under its option to purchase additional shares. The underwriter can close out a covered short sale by exercising its option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriter will consider, among other things, the open market price of shares compared to the price available under its option to purchase additional shares. The underwriter may also sell shares in excess of its option to purchase additional shares, creating a naked short position. The underwriter must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriter is concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriter may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. The underwriters or agents also may impose a penalty bid, which permits them to reclaim selling concessions allowed to syndicate members or certain dealers if they repurchase the common stock in stabilizing or covering transactions. These activities, as well as other purchases by the underwriter for its own account, may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriter is not required to engage in these activities and may end any of these activities at any time.

We and the underwriter have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by the underwriter, or selling group members, if any, participating in this offering. The underwriter may agree to allocate a number of shares of common stock to selling group members, if any, for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriter and selling group members that may make Internet distributions on the same basis as other allocations.

The underwriter and its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriter and its affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of its various business activities, the underwriter and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities)

and financial instruments (including bank loans) for its own account and for the accounts of its customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriter and its affiliates may also make investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such assets, securities and instruments.

Sales of shares made outside of the United States may be made by affiliates of the underwriter.

Selling restrictions

European Economic Area and United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom (each a "Relevant State"), no subordinate voting shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the subordinate voting shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of subordinate voting shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

(a) to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of underwriter for any such offer; or

(c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation, provided that no such offer of subordinate voting shares shall require the Company or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to any subordinate voting shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any subordinate voting shares to be offered so as to enable an investor to decide to purchase or subscribe for any subordinate voting shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

United Kingdom

In the UK, this prospectus supplement is only addressed to and directed to qualified investors who are (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order"); or (ii) high net worth entities and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant person"). Any investment or investment activity to which this prospectus supplement relates is available only to relevant persons and will only be engaged with relevant persons. Any person who is not a relevant person should not act or rely on this prospectus supplement or any of its contents.

Canada

Our shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of our shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriter is not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Israel

This prospectus does not constitute a prospectus under the Israeli Securities Law, 5728-1968, and has not been filed with or approved by the Israel Securities Authority. In Israel, this prospectus is being distributed only to, and is directed only at, investors listed in the first addendum (the "Addendum"), to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters purchasing for their own account, venture capital funds, and entities with shareholders' equity in excess of NIS 50 million, each as defined in the Addendum (as it may be amended from time to time, collectively referred to as institutional investors).

Institutional investors may be required to submit written confirmation that they fall within the scope of the Addendum. In addition, we may distribute and direct this prospectus in Israel, at our sole discretion, to certain other exempt investors or to investors who do not qualify as institutional or exempt investors, provided that the number of such non-qualified investors in Israel shall be no greater than 35 in any 12-month period.

Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX"), or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the offering, us, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject

to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

United Arab Emirates

The shares have not been, and are not being, publicly offered, sold, promoted or advertised in the United Arab Emirates (including the Dubai International Financial Centre) other than in compliance with the laws of the United Arab Emirates (and the Dubai International Financial Centre) governing the issue, offering and sale of securities. Further, this prospectus does not constitute a public offer of securities in the United Arab Emirates (including the Dubai International Financial Centre) and is not intended to be a public offer. This prospectus has not been approved by or filed with the Central Bank of the United Arab Emirates, the Securities and Commodities Authority or the Dubai Financial Services Authority.

Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission ("ASIC") in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement, or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (the "Exempt Investors"), who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus supplement contains general information only and does not take into account the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate for their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Japan

No registration pursuant to Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) (the "FIEL") has been made or will be made with respect to the solicitation of the application for the acquisition of our shares.

Accordingly, our shares have not been, directly or indirectly, offered or sold and will not be, directly or indirectly, offered or sold in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements, and otherwise in compliance with, the FIEL and the other applicable laws and regulations of Japan.

For Qualified Institutional Investors ("QII")

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to our shares constitutes either a "QII only private placement" or a "QII only secondary distribution" (each as described in Paragraph 1, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to our shares. Our shares may only be transferred to QIIs.

For Non-QII Investors

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to our shares constitutes either a "small number private placement" or a "small number private secondary distribution" (each as is described in Paragraph 4, Article 23-13 of the FIEL).

Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to our shares. Our shares may only be transferred en bloc without subdivision to a single investor.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined under Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA")) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to conditions set forth in the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for six months after that corporation has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (3) where no consideration is or will be given for the transfer, (4) where the

transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore ("Regulation 32").

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for six months after that trust has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than S$200,000 (or its equivalent in a foreign currency) for each transaction (whether such amount is to be paid for in cash or by exchange of securities or other assets), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

Saudi Arabia

This prospectus may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Offers of Securities Regulations as issued by the board of the Saudi Arabian Capital Market Authority (the "CMA") pursuant to resolution number 2-11-2004 dated 4 October 2004 as amended by resolution number 1-28-2008, as amended. The CMA does not make any representation as to the accuracy or completeness of this prospectus and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this prospectus. Prospective purchasers of the shares offered hereby should conduct their own due diligence on the accuracy of the information relating to the shares. If you do not understand the contents of this prospectus, you should consult an authorized financial adviser.

China

This prospectus does not constitute a public offer of shares, whether by sale or subscription, in the People's Republic of China (the "PRC"). The shares are not being offered or sold directly or indirectly in the PRC to or for the benefit of, legal or natural persons of the PRC.

Further, no legal or natural persons of the PRC may directly or indirectly purchase any of the shares or any beneficial interest therein without obtaining all prior PRC's governmental approvals that are required, whether statutorily or otherwise. Persons who come into possession of this prospectus are required by the issuer and its representatives to observe these restrictions.

Korea

The shares have not been and will not be registered under the Financial Investments Services and Capital Markets Act of Korea and the decrees and regulations thereunder (the "FSCMA"), and the shares have been and will be offered in Korea as a private placement under the FSCMA. None of the shares may be offered, sold or delivered directly or indirectly, or offered or sold to any person for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except pursuant to the applicable laws and regulations of Korea, including the FSCMA and the Foreign Exchange Transaction Law of Korea and the decrees and regulations thereunder (the "FETL"). The shares have not been listed on any of securities exchanges in the world including, without limitation, the Korea Exchange in Korea. Furthermore, the purchaser of the shares shall comply with all applicable regulatory requirements (including but not limited to requirements under the FETL) in connection with the purchase of the shares. By the purchase of the shares, the relevant holder thereof will be deemed to represent and warrant that if it is in Korea or is a resident of Korea, it purchased the shares pursuant to the applicable laws and regulations of Korea.

Taiwan

The shares have not been and will not be registered with the Financial Supervisory Commission of Taiwan pursuant to relevant securities laws and regulations and may not be sold, issued or offered within Taiwan through a public offering or in circumstances which constitutes an offer within the meaning of the Securities and Exchange Act of Taiwan that requires a registration or approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering and sale of the shares in Taiwan.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

The following discussion is a summary of the material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock issued pursuant to this offering. For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock that is neither a U.S. person nor an entity nor arrangement treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. Court and the control of one or more "United States person" (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a United States person for U.S. Federal income tax purposes.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and, all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any such change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. There can be no assurance that the Internal Revenue Service, which we refer to as the IRS, will not challenge one or more of the tax consequences described herein. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset, generally property held for investment.

This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxes, the alternative minimum tax, the Medicare tax on net investment income, any election to apply Section 1400Z-2 of the Code to gains recognized with respect to shares of our common stock or any U.S. federal tax other than the income tax (including, for example, the estate tax). This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt or governmental organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;

- "qualified foreign pension funds," or entities wholly owned by a "qualified foreign pension fund";
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and partners and investors therein);
- persons that have a functional currency other than the U.S. dollar;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- persons for whom our stock constitutes "qualified small business stock" within the meaning of Section 1202 of the Code;
- investors in pass-through entities (or entities that are treated as disregarded entities for U.S. federal income tax purposes); and
- certain U.S. expatriates.

This discussion is for general information only and is not tax advice. Accordingly, all prospective non-U.S. holders of our common stock should consult their own tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on our common stock

Distributions, if any, on our common stock generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on sale or other taxable disposition of our common stock." Any such distributions will also be subject to the discussion below under the section titled "Withholding and information reporting requirements—FATCA."

Subject to the discussion in the following two paragraphs in this section, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing a U.S. tax return with the IRS.

Gain on sale or other taxable disposition of our common stock

Subject to the discussion below under "Withholding and information reporting requirements—FATCA," a non-U.S. holder generally will not be subject to any U.S. federal income tax on any gain realized upon such holder's sale or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed-base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on our common stock" also may apply;
- the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- we are, or have been, at any time during the five-year period preceding such sale of other taxable disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation," unless our common stock is regularly traded on an established securities market, within the meaning of the relevant provisions of the code, and the non-U.S. holder holds no more than 5% of our outstanding common stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. If we are determined to be a U.S. real property holding corporation and the foregoing exception does not apply, then the non-U.S. holder generally will be taxed on its net gain derived from the disposition at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code), except that the branch profits tax generally will not apply. If we are a U.S. real property holding corporation and our common stock is not regularly traded on an established securities market, a non-U.S. holder's proceeds received on the disposition of shares will also generally be subject to withholding at a rate of 15%. Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

Backup withholding and information reporting

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in "Distributions on our common stock," generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise

establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is filed with the IRS in a timely manner.

Withholding and information reporting requirements—FATCA

The Foreign Account Tax Compliance Act ("FATCA"), generally imposes a U.S. federal withholding tax at a rate of 30% on payments of dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a "foreign financial institution," such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA. Such withholding may also apply to gross proceeds from the sale or other disposition of our common stock, although under recently proposed U.S. Treasury regulations, no withholding would apply to such gross proceeds. The preamble to the proposed regulations specifies that taxpayers (including withholding agents) are permitted to rely on the proposed regulations pending finalization. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of this withholding tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

LEGAL MATTERS

The validity of the common stock offered by this prospectus will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Certain legal matters related to this offering will be passed upon for the underwriter by Ropes & Gray LLP, Boston, Massachusetts.

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, 2019, and the effectiveness of our internal control over financial reporting as of December 31, 2019, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. 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

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 *www.sec.gov*. Copies of certain information filed by us with the SEC are also available on our website at *www.modernatx.com*. Our website and the information contained therein or connected thereto are not a part of this prospectus or the registration statement of which it forms a part, and are not incorporated by reference in this prospectus or the registration statement of which it forms a part.

This prospectus is part of a registration statement we filed with the SEC. This prospectus, filed as part of the registration statement, omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information on us and our consolidated subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC's website.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-38753) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") (in each case, other than those documents or the portions of those documents not deemed to be filed), between the date of this prospectus and the termination of this offering:

- Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 27, 2020;
- Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on May 7, 2020;
- The information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2019 from our definitive proxy statement on Schedule 14A (other than information furnished rather than filed), which was filed with the SEC on March 16, 2020;
- Current Reports on Form 8-K, filed with the SEC on February 3, 2020, February 12, 2020, February 13, 2020, March 16, 2020, March 23, 2020, March 30, 2020, April 17, 2020, May 1, 2020, May 7, 2020, May 15, 2020 and May 18, 2020 (other than information "furnished" under Items 2.02 or 7.01, or corresponding information furnished under Item 9.01 or included as an exhibit); and
- The description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC on December 4, 2018, including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by contacting us, either orally or in writing, at the following:

Moderna, Inc.
200 Technology Square
Cambridge, MA 02139
(617) 714-6500
Attention: Corporate Secretary

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$1,250,000,000

Common Stock

PROSPECTUS

Morgan Stanley

, 2020

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. ***Other expenses of issuance and distribution***

Set forth below is an estimate (except in the case of the registration fee) of the amount of fees and expenses to be incurred in connection with the issuance and distribution of the offered securities, other than underwriting discounts and commissions.

SEC Registration fee	$ (1)
FINRA Fee	225,500
Legal fees and expenses	350,000
Accounting fees and expenses	100,000
Printing expenses	15,000
Transfer agent and registrar fees	6,500
Miscellaneous	3,000
Total	$ 700,000(2)

(1) Pursuant to Rules 456(b) and 457(r) under the Securities Act of 1933, as amended, or the Securities Act, the registrant is deferring payment of the filing fees relating to the securities that are registered and available for sale under this registration statement.

(2) Does not include the SEC registration fee which is being deferred, as noted in footnote (1).

Item 15. ***Indemnification of directors and officers***

Section 145 of the Delaware General Corporation Law, or the DGCL, authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our certificate of incorporation and bylaws that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for 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;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We have entered into indemnification agreements with each of our directors and certain of our executive officers. These agreements provide that we will indemnify each of our directors, certain of our executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, we have agreed in the indemnification agreements that our obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Any underwriting agreements that we may enter into will likely provide for the indemnification of us, our controlling persons, our directors and certain of our officers by the underwriter against certain liabilities, including liabilities under the Securities Act.

Item 16. *Exhibits*

Exhibit No.	Description
1.1*	Form of underwriting agreement.
3.1	Amended and Restated Certificate of Incorporation of the Registrant (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on December 14, 2018).
3.2	Amended and Restated Bylaws of the Registrant (Incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on December 14, 2018).
4.1	Specimen Common Stock Certificate (Incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 filed on November 9, 2018).
4.2	Second Amended and Restated Investors' Rights Agreement by and among the Registrant and certain of its stockholders, dated May 7, 2018 (Incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1 filed on November 9, 2018).
5.1	Opinion of Goodwin Procter LLP.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.2	Consent of Goodwin Procter LLP (included in Exhibit 5.1 hereto).
24.1	Power of Attorney (included in the signature pages to this registration statement).

* To be filed by amendment or as exhibit(s) to a Current Report of the Registrant on Form 8-K and incorporated herein by reference, as applicable.

Item 17. ***Undertakings***

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that subparagraphs (i), (ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a

purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities:

The undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be sellers to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or their securities provided by or on behalf of the undersigned Registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

(6) That, for the purposes of determining any liability under the Securities Act, each filing of the annual reports of the Registrant pursuant to Section 13(a) or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement, if any, shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(7) That, for the purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(8) That, for the purposes of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering period.

(9) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Cambridge, Commonwealth of Massachusetts, on the 18th day of May, 2020.

MODERNA, INC.

By: /s/ Stéphane Bancel
Stéphane Bancel
Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

Each individual whose signature appears below hereby constitutes and appoints each of Stéphane Bancel and Lorence Kim and as such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for such person in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including pre-effective and post-effective amendments) to this Registration Statement (or any Registration Statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended), and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission granting unto each 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 and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement and Power of Attorney has been signed by the following person in the capacities and on the date indicated.

Name	Title	Date
/s/ Stéphane Bancel Stéphane Bancel	Chief Executive Officer and Director *(Principal Executive Officer)*	May 18, 2020
/s/ Lorence Kim Lorence Kim, M.D.	Chief Financial Officer *(Principal Financial Officer)*	May 18, 2020
/s/ Jennifer Lee Jennifer Lee	Chief Accounting Officer *(Principal Accounting Officer)*	May 18, 2020
/s/ Noubar B. Afeyan Noubar B. Afeyan, Ph.D.	Chairman and Director	May 18, 2020
/s/ Stephen Berenson Stephen Berenson	Director	May 18, 2020
/s/ Sandra Horning Sandra Horning, M.D.	Director	May 18, 2020

Name	Title	Date
/s/ Robert Langer Robert Langer, Sc.D.	Director	May 18, 2020
/s/ Elizabeth Nabel Elizabeth Nabel, M.D.	Director	May 18, 2020
/s/ François Nader François Nader, M.D.	Director	May 18, 2020
/s/ Paul Sagan Paul Sagan	Director	May 18, 2020

Exhibit 5.1

May 18, 2020

Moderna, Inc.
200 Technology Square
Cambridge, MA 02139

Re: Securities Registered under Registration Statement on Form S-3ASR

We have acted as counsel to Moderna, Inc., a Delaware corporation (the "**Company**"), in connection with its filing of a Registration Statement on Form S-3ASR (as amended or supplemented, the "**Registration Statement**") filed on May 18, 2020 with the Securities and Exchange Commission (the "**Commission**") pursuant to the Securities Act of 1933, as amended (the "**Securities Act**"), relating to the registration of the offering by the Company of up to $1,250,000,000 in shares of the Company's Common Stock, par value $0.0001 per share (the "**Shares**"). The Shares include an option granted to the underwriters of the offering to purchase up to an additional $187,500,000 in Shares. The Shares are being sold to the several underwriters named in, and pursuant to, an underwriting agreement among the Company and such underwriters (the "**Underwriting Agreement**").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinion set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption "Legal Matters" in the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ GOODWIN PROCTER LLP

GOODWIN PROCTER LLP

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” in this Registration Statement (Form S-3) and related Prospectus of Moderna, Inc. for the registration of common stock, and to the incorporation by reference therein of our reports dated February 27, 2020, with respect to the consolidated financial statements of Moderna, Inc., and the effectiveness of internal control over financial reporting of Moderna, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2019, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
May 18, 2020