



## Moderna Provides Pipeline and Full-Year Corporate Update

January 9, 2017

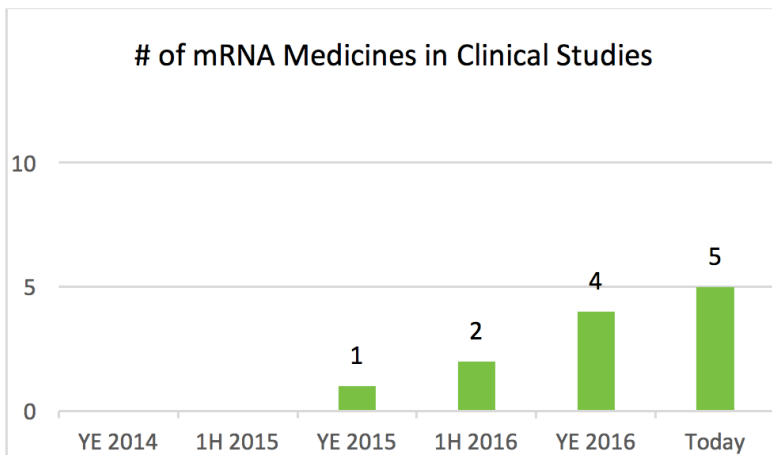
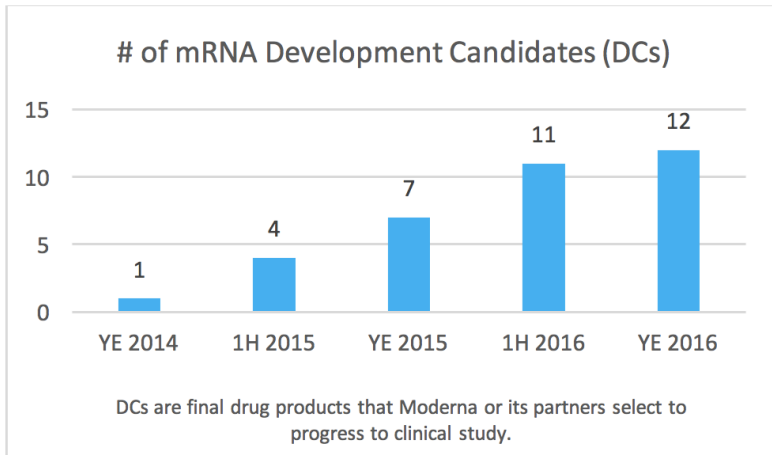
### Highlights Breadth, Depth and Velocity of Development Pipeline

- 12 mRNA development candidates across three therapeutic areas - infectious diseases, immuno-oncology and cardiovascular disease
- Five clinical studies underway; 332 subjects dosed to date

**CAMBRIDGE, Mass., January 9, 2017** – Moderna Therapeutics, a clinical stage biotechnology company that is pioneering messenger RNA (mRNA) Therapeutics™ to create a new generation of transformative medicines for patients, provided a business update today at the 35<sup>th</sup> Annual J.P. Morgan Healthcare Conference in San Francisco, Calif. Moderna's Chief Executive Officer, Stéphane Bancel, highlighted the company's current development pipeline, which includes 12 mRNA development candidates (DCs), including vaccines and therapeutics across three therapeutic areas: infectious diseases, immuno-oncology and cardiovascular disease. Clinical studies for five of the DCs are now underway in the U.S., Europe and Australia. Among these is Moderna's Zika mRNA vaccine, mRNA-1325, which the company progressed from idea to first-in-human study in 12 months. Moderna has filed two additional investigational new drug (IND) applications with the U.S. Food & Drug Administration (FDA); one of these INDs is now open and the other was filed in late December 2016.

"With clinical studies underway for five medicines, 332 healthy subjects dosed thus far, and seven additional development candidates advancing to the clinic, we have rapidly pivoted from a discovery company to a development company with a pipeline of unusual breadth and depth. Moderna is at an inflection point," said Stéphane Bancel, Chief Executive Officer of Moderna. "We've invested heavily in our mRNA platform, research engine and early development engine to build the world's leading mRNA company. With this infrastructure in place, we are now able to advance high-quality mRNA medicines with a breadth, speed and scale not common in our industry. Among our 2016 highlights, we are particularly proud that we were able to move our Zika mRNA vaccine candidate from initial concept to clinical study in just 12 months in response to the urgent need for a safe and effective Zika vaccine. I want to thank the Moderna team and our partners for their significant achievements over the past year to advance the promise of mRNA medicines for patients."

A live webcast of the presentation can be accessed in the Newsroom section of Moderna's website at [modernatx.com](http://modernatx.com). A replay of the webcast will be archived on Moderna's website for at least 30 days following the presentation.



Moderna Development Pipeline

As of Jan. 9, 2017

	Development Candidate (DC)	Lead	Indication / Target	Formulation	GLP Toxicology	IND/CTA Filed	Ph 1	Ph 2	Funding
Viral Vaccines	mRNA-1440	Moderna	Influenza H10	In Licensed	✓	✓	Started: Dec '15		
	mRNA-1851	Moderna	Influenza H7	In Licensed	✓	✓	Started: May '16		
	mRNA MRK-1777	Merck	Undisclosed	In Licensed	✓	✓	Started: Nov '16		
	mRNA-1388	Moderna	Chikungunya	In Licensed	✓	✓	Safe to Proceed to Clinic		DARPA
	mRNA-1325	Moderna	Zika	In Licensed	✓	✓	Started: Dec '16		DARPA, BARDA
	mRNA-1706	Moderna	Zika	V1GL	Ongoing				
	mRNA-1647	Moderna	CMV	V1GL					
	mRNA-1653	Moderna	HMPV/PIV3	V1GL					
Immuno-Oncology	mRNA-4157	Moderna Merck	Personalized Cancer Vaccine	V1GL	Ongoing				
	mRNA-2416	Moderna	OX40L	N1GL	✓	✓			
	mRNA-2905	AstraZeneca Moderna	IL-12	N1GL	Ongoing				
CV	mRNA AZD-8601	AstraZeneca	VEGF-A	Citrate / Saline	✓	✓	Started: Jan '17		

Abbreviations: GLP = good laboratory practice; IND = investigational new drug; CTA = clinical trial authorization; CMV = cytomegalovirus; CV = cardiovascular; HMPV = human metapneumovirus; PIV3 = parainfluenza virus 3; IL-12 = interleukin-12; VEGF-A = vascular endothelial growth factor A.

## MODERNA'S mRNA DEVELOPMENT PIPELINE – OVERVIEW AND DC HIGHLIGHTS

### Modality-Centric Approach

mRNA is a fundamental component of human biology and, used as a drug, directs cells in the body to produce proteins to fight or prevent disease. Moderna combines elements of its mRNA platform into distinct approaches, called modalities, to address diseases. Moderna is advancing multiple modalities, which are technological solution sets that can be deployed to create a family of medicines for different diseases within one therapeutic area, and often across therapeutic areas.

Moderna's current DCs utilize two of the company's modalities: vaccines and localized therapeutics. The vaccines modality is being applied to advance mRNA-based viral vaccines for multiple infectious diseases, as well as mRNA-based personalized cancer vaccines. Both the viral vaccines and personalized cancer vaccines are delivered via intramuscular (IM) injection. The localized therapeutics modality is being applied to advance mRNA-based immuno-oncology therapeutics, delivered via intratumoral (ITu) injection, as well as mRNA-based therapeutics for cardiovascular disease and other ischemic vascular diseases.

Other modalities Moderna is pursuing in discovery include intravenous (IV) systemic therapeutics, IV liver therapeutics and inhaled pulmonary therapeutics. Moderna's development pipeline includes the use of in-licensed delivery technologies as well as proprietary, next-generation delivery technologies.

### Development Candidates (DCs) - By Modality and Therapeutic Application

#### Vaccines Modality (IM Injection)

##### Therapeutic Application #1 - Infectious Diseases/Viral Vaccines

##### mRNA-1440 and mRNA-1851 – Enabling rapid assessment of platform safety and efficacy

Moderna strategically selected its first two DCs with the goal of quickly assessing both the safety and efficacy of its mRNA platform in humans. These two DCs target influenza strains with pandemic potential: mRNA-1440 for influenza A subtype H10N8 and mRNA-1851 for influenza A subtype H7N9.

Because these strains are not circulating in the general population where the trials are taking place (the U.S. and Germany), Moderna is able to study the efficacy of its vaccine technology in naïve patient populations. Therefore, antibodies present in subjects' blood after treatment with mRNA-1440 and mRNA-1851 are likely attributed to Moderna's vaccines and not to active immunity as a result of previous exposure to the virus. To strengthen the quality of its clinical research, Moderna has conducted these trials with 25 percent of healthy subjects getting placebo.

In addition, studying these influenza strains is allowing Moderna to measure vaccine efficacy against a well-understood endpoint, the hemagglutination inhibition assay, or HAI. HAI is used by FDA and World Health Organization (WHO) to measure how well antibodies bind to and inactivate an influenza virus. Vaccines demonstrating titers of 1:40 are considered effective in reducing the risk for influenza infection and are, thus, approved as seasonal flu vaccines.

- **mRNA-1440 – Influenza A virus subtype H10N8 vaccine:** Influenza A subtype H10N8 has infected three people in China in 2013, resulting in two deaths. If H10N8 were to become a pandemic, there is no approved vaccine. A Phase 1 study of healthy volunteers conducted in Europe has completed enrollment, with a total of 201 subjects enrolled. The study remains active, with subjects continuing to be followed. Moderna plans to publish topline study findings in 2017 and complete findings in 2018 upon completion of the study and full data analysis.
- **mRNA-1851 – Influenza A virus subtype H7N9 vaccine:** Influenza A subtype H7N9 has a high potential of becoming a pandemic. More than 600 cases have been reported to date in China, with a mortality rate of approximately one in three people infected. There is no approved vaccine against this strain. A Phase 1 study of healthy volunteers is underway in the U.S., with 104 healthy volunteers dosed to date.

**mRNA MRK-1777 – Viral vaccine for undisclosed indication:** This viral vaccine is a Merck-partnered program. Under the terms of the collaboration and license agreement Moderna [announced](#) with Merck in 2015, Moderna is conducting a Phase 1 study of mRNA MRK-1777 in healthy volunteers, which is underway in Australia.

**mRNA-1388 – Chikungunya virus vaccine:** Chikungunya typically causes mild fever and transient joint pain. In approximately 15 percent of infected patients, it can cause long-term, severe arthritis. Chikungunya historically has been limited to warmer climates in Asia and Africa, but recent cases have been identified in the Americas and Europe. There is no approved vaccine for Chikungunya. Development of mRNA-1388 is funded through an award from the Defense Advanced Research Projects Agency (DARPA), an agency of the U.S. Department of Defense. An IND application for mRNA-1388 has been filed with the FDA.

**mRNA-1325 – Zika virus vaccine:** The Zika virus is a rapidly emerging pandemic with potential long-term public health implications. Zika is primarily transmitted by mosquitos, but can also be transmitted sexually. Children born to mothers infected with Zika can develop microcephaly, a severe disease characterized by small, not fully developed heads and severe disabilities. Recent data shows that 42 percent of Zika-infected pregnancies result in structural brain damage to the baby. Zika is also thought to cause the autoimmune condition Guillain-Barré syndrome in adults. There is no treatment or approved vaccine for Zika.

In response to the urgent global threat Zika presents, Moderna advanced mRNA-1325 from concept to first-in-human study in 12 months. A Phase 1/2 study is now enrolling healthy volunteers in the U.S.

In September 2016, Moderna [announced](#) a funding award of up to \$125 million from the Biomedical Advanced Research and Development Authority (BARDA), a division of the Office of the Assistant Secretary for Preparedness and Response (ASPR) within the U.S. Department of Health and Human Services (HHS), to accelerate development of its Zika mRNA vaccine. To date, BARDA has granted \$52 million of the award to Moderna to support its Phase 1 clinical study, toxicology studies, vaccine formulation and manufacturing. The agreement includes additional funding options up to \$73 million to support Phase 2 and Phase 3 clinical studies.

**mRNA-1706 – Zika virus vaccine (proprietary formulation):** Moderna is advancing a second version of its Zika mRNA vaccine that contains the same active pharmaceutical ingredient (API) as the mRNA-1325 Zika mRNA vaccine, but utilizes one of the company's next generation, novel formulations, V1GL. Good Laboratory Practice (GLP) toxicology studies are currently underway for mRNA-1706.

**mRNA-1647 – Cytomegalovirus (CMV) vaccine:** CMV leads to severe disease in two populations: newborns and transplant patients. CMV is the most common cause of newborn disability, leading to deafness, microcephaly (small, not fully developed heads and severe disabilities), vision loss and mental deficiencies, among other serious complications. It is also the most frequent viral disease in transplant recipients, often leading to transplant failure. There is no approved vaccine for CMV.

The majority of neutralizing antibodies the body produces to fight CMV infection are against the CMV Pentamer complex, which consists of five proteins (gH, gL, UL128, UL130 and UL131A). Producing the CMV Pentamer recombinantly has proven very difficult. There has been no success to date developing a CMV vaccine. Moderna's mRNA platform has afforded the company the ability to rationally design a CMV vaccine that is capable of expressing the CMV Pentamer; the five components of the Pentamer are designed to act as a single antigen. mRNA-1647 combines six mRNAs to express the CMV Pentamer and another CMV antigen, the herpesvirus glycoprotein (gB) protein.

**mRNA-1653 – Human Metapneumovirus (HMPV) and Parainfluenza virus (PIV3) vaccine:** Most children have been infected at least once with both HMPV and PIV3 by age five. These viruses typically cause mild respiratory illness, but can become severe in young children, the elderly and other immunocompromised adults. HMPV and PIV3 are the second and third most common causes, respectively, of lower respiratory hospitalizations in children, behind RSV. There is no approved vaccine for either HMPV or PIV3. mRNA-1653 combines mRNAs encoding for viral antigens associated with both HMPV and PIV3.

#### Vaccines Modality (IM Injection)

##### **Therapeutic Application #2 – Personalized Cancer Vaccines**

**mRNA-4157 – Personalized Cancer Vaccines:** Moderna, in [partnership](#) with Merck, is developing an mRNA-based personalized cancer vaccine to prime the immune system to recognize cancer cells and mount a strong, tailored response to each individual patient's cancer. Moderna will identify neoantigens present in each patient's specific tumor and will create a personalized vaccine encoding for approximately 20 unique neoantigens. When injected into the body, the mRNA directs cells to produce and express these neoantigens. In turn, this activates the immune system to better recognize and destroy the cancer cells. Moderna's mRNA-based personalized cancer vaccine has the potential to be synergistic with checkpoint inhibitor therapies, including its partner Merck's anti-PD-1 therapy, KEYTRUDA® (pembrolizumab).

Leveraging its rapid cycle time, small-batch manufacturing technique and digital infrastructure, Moderna plans to manufacture and supply its personalized cancer vaccines tailored to individual patients within weeks.

#### Localized Therapeutics Modality

##### **Therapeutic Application #1 – Immuno-Oncology Therapeutics (Intratumoral, or iTu, Injection)**

**mRNA-2416 – OX40L Immunotherapy:** OX40 Ligand, or OX40L, is a powerful co-stimulatory protein that enhances the expansion, function and survival of T cells to mount an attack against cancer cells. Moderna is investigating the potential effect of iTu injection of mRNA encoding for the OX40L protein into a tumor. When mRNA-2416 is delivered directly into a tumor, cells in the tumor express the OX40 ligand protein on their surface, which, in turn, may lead to a stronger T cell attack against the tumor. Additionally, Moderna is investigating the potential for mRNA-2416 to elicit an abscopal effect in metastatic cancer, in which localized injection into one tumor would lead not only to shrinking of that tumor but also shrinking of tumors elsewhere in the body. Combining mRNA-2416 with a checkpoint inhibitor may improve outcomes from cancer therapy.

An IND for mRNA-2416 has been filed with the FDA.

**mRNA-2905 – IL-12 Immunotherapy:** Interleukin 12, or IL-12, is a powerful cytokine that activates the immune system after being released from cells. Moderna, in partnership with AstraZeneca, is investigating the potential effect of iTu injection of mRNA encoding for the IL-12 protein. When mRNA-2905 is delivered directly into a tumor, cells in the tumor express IL-12 at a high concentration in the local microenvironment, which, in turn, may lead to a stronger T cell attack against the tumor. By expressing IL-12 locally, systemic side effects that previously have been seen from delivery of IL-12 protein into the blood may be more manageable. Moderna is also investigating the potential of mRNA-2905 to elicit an abscopal effect in metastatic cancer, in which localized injection into one tumor would lead not only to shrinking of that tumor but also shrinking of tumors elsewhere in the body. Combining mRNA-2905 with a checkpoint inhibitor may improve outcomes from cancer therapy.

mRNA-2905 is being developed through a collaboration Moderna [announced](#) in early 2016 with AstraZeneca to discover, co-develop and co-commercialize immuno-oncology mRNA therapeutics. Under the terms of the agreement, Moderna is leading discovery efforts and preclinical development, and AstraZeneca will oversee early clinical development (led by MedImmune). GLP toxicology studies are currently underway for mRNA-2905. Moderna and AstraZeneca will share the costs of late-stage clinical development. The two companies will co-commercialize resulting products in the U.S. under a 50:50 profit sharing arrangement.

#### Localized Therapeutics Modality

##### **Therapeutic Application #2 – Cardiovascular Therapeutics (Intracardiac Injection)**

**mRNA AZD-8601 – VEGF-A:** mRNA AZD-8601 is an investigational mRNA-based therapy being developed by AstraZeneca that encodes for vascular endothelial growth factor-A (VEGF-A). Using mRNA to initiate a strong, local and transient surge of VEGF-A expression could help overcome challenges associated with previous approaches to regulate this protein in tissues. When directed via local tissue injection, VEGF-A mRNA may potentially lead to the creation of more blood vessels and improved blood supply. mRNA AZD-8601 could one day provide a unique regenerative treatment option for patients with heart failure or after a heart attack, as well as for diabetic wound healing and other ischemic vascular diseases.

A Phase 1 safety study is currently enrolling patients in Europe. This study is a randomized, single-blind, placebo-controlled, single ascending dose study in male patients with Type 2 diabetes mellitus, performed at a single study center. This study is an essential first step to proving the clinical value of mRNA VEGF-A expression in cardiometabolic diseases.

## **2016 BUSINESS UPDATES AND HIGHLIGHTS**

### **2016 Partnerships**

- **Immuno-Oncology Collaboration with AstraZeneca:** In January, Moderna [announced](#) a new collaboration with AstraZeneca to discover, co-develop and co-commercialize immuno-oncology mRNA therapeutic candidates. The collaboration is in addition to the exclusive agreement announced by the companies in 2013 to develop mRNA therapeutics for the treatment of cardiovascular, metabolic and renal diseases as well as selected targets in oncology.
- **Inclusion of New Infectious Disease Vaccine Program with Merck:** In January, Moderna [announced](#) that Merck licensed a vaccine program against an undisclosed viral target, including mRNA 1566 and a set of related novel vaccine candidates, as part of the ongoing collaboration between the companies. The

- inclusion of this new program, which was not part of the original collaboration agreement, follows the rapid progress made in the first year of the collaboration.
- **Global Health Partnership with the Bill & Melinda Gates Foundation:** Moderna also [announced](#) in January a partnership with the Bill & Melinda Gates Foundation to advance the development of a novel, affordable combination of mRNA-based antibody therapeutics to help prevent human immunodeficiency virus (HIV) infection. The global health partnership has the potential for follow-on projects to develop additional mRNA-based projects for various infectious diseases.
  - **Personalized Cancer Vaccines Collaboration with Merck:** In June, Moderna [announced](#) a new strategic collaboration with Merck to advance novel mRNA-based personalized cancer vaccines with KEYTRUDA® (pembrolizumab) for the treatment of multiple types of cancer. The collaboration will leverage Moderna's rapid cycle time, small-batch manufacturing and digital infrastructure to supply vaccines tailored to individual patients within weeks. Under the terms of the agreement, Merck made an upfront cash payment to Moderna of \$200 million, which Moderna is using to lead all research and development efforts through proof of concept.
  - **Research Collaboration with Vertex in Cystic Fibrosis:** In July, Moderna [announced](#) an exclusive research collaboration and licensing agreement with Vertex Pharmaceuticals to discover and develop mRNA therapeutics for the treatment of cystic fibrosis (CF). The three-year collaboration will focus on the use of mRNA therapeutics, administered via pulmonary delivery, to treat the underlying cause of CF by enabling cells in the lungs to produce functional copies of the cystic fibrosis transmembrane conductance regulator (CFTR) protein, which is known to be defective in people with CF.
  - **BARDA Funding Award for Zika mRNA Vaccine:** In September, Moderna [announced](#) that it had received a BARDA funding award of up to \$125 million for mRNA-1325, an investigational Zika vaccine. To date, BARDA has granted \$52 million of the award to Moderna to support its Phase 1 clinical study, toxicology studies, vaccine formulation and manufacturing. The agreement includes options for additional funding up to \$73 million to support Phase 2 and Phase 3 clinical studies.

#### 2016 Infrastructure Investments and Achievements

- **Build-out of Good Manufacturing Practices (GMP) mRNA Clinical Manufacturing Facility:** In September, Moderna announced the build-out of a state-of-the-art GMP clinical manufacturing facility to support its growing number of clinical programs. Moderna is making an initial investment of \$110 million to build out the 200,000-square-foot facility, located in Norwood, Mass. The facility will enable the manufacture, quality, control and supply of clinical grade mRNA therapies and vaccines for GLP toxicology studies as well as Phase 1 and Phase 2 clinical studies. At the site, which is expected to open in mid-2018, Moderna will carry out fully integrated manufacturing activities—from raw material production to active pharmaceutical ingredients (APIs), formulation, filling and finish.
- **Continued Expansion of Internal Expertise:**
  - **Key Leadership Hires:** In October, Moderna welcomed two key senior additions. Bolstering its scientific team, the company [appointed](#) Melissa Moore, Ph.D., as Chief Scientific Officer of its mRNA Research Platform. Previously a member of Moderna's Scientific Advisory Board, Dr. Moore joined Moderna from the University of Massachusetts Medical School (UMMS), where she served as Professor of Biochemistry & Molecular Pharmacology, Eleanor Eustis Farrington Chair in Cancer Research and Investigator at the Howard Hughes Medical Institute (HHMI). In addition, Moderna [appointed](#) Annie Seibold Drapeau as Chief Human Resources Officer. Most recently an Operating Partner at Bain Capital Private Equity, Ms. Drapeau is leading Moderna's talent and organizational strategy to support its continued growth and advancement of its mRNA pipeline.
  - **Growth across the Organization:** In 2016, Moderna expanded its headcount from approximately 325 to more than 500 team members.
- **Ranked Third Top Employer in Biopharma Industry by Science:** For the second consecutive year, Moderna was [named](#) among the industry's best employers by *Science* and *Science Careers'* annual Top Employer survey. Moderna ranked #3 this year, moving up four spots from the 2015 Top Employer survey. The survey polls employees across the globe in biotechnology, biopharmaceutical, pharmaceutical and related industries to rate companies on various key characteristics to arrive at a list of the 20 best employers.
- **Recognized by The Boston Globe in its 2016 Top Places to Work Feature:** Moderna was recognized by The Boston Globe as one of the top employers in Massachusetts in its annual Top Places to Work [feature](#). Among the hundreds of life sciences companies in Mass., Moderna was only one of six companies from the pharmaceutical / biopharmaceutical and life science categories included in this year's Top Places to Work list.
- **Transitioned to SAP for Finance Business Processes:** At the end of 2016, Moderna took another important step toward becoming a fully digital biotech company with the implementation of SAP for finance business processes and materials receiving. The roll-out of a highly integrated enterprise resource planning (ERP) solution is a critical component of preparing for the launch of Moderna's Norwood, Mass., GMP clinical manufacturing facility. The deployment of SAP will enable Moderna to scale as a company, efficiently and in an integrated fashion, as it advances its mission to deliver a new generation of transformative medicines for patients.

#### 2016 Financials

- **Strengthened Balance Sheet with New Equity Financing:** In September, Moderna [announced](#) the close of a \$474 million equity financing, which included strong support from existing institutional investors, pharmaceutical partners and new institutional investors from the U.S., Europe and Asia.
- **Granted First Two Tranches of BARDA Funding for Zika mRNA Vaccine:** In September 2016, Moderna [announced](#) a funding award of up to \$125 million from BARDA to accelerate development of its Zika mRNA vaccine. To date, BARDA has granted \$52 million of the \$125 million award to Moderna to support its Phase 1 clinical study, toxicology studies, vaccine formulation and manufacturing. This includes the granting of an initial \$8 million in September and in December the granting of a second, tranche of \$44 million.
- **Over \$1 Billion in Cash Inflows and Available Grants in 2016:** In addition to the \$474 million equity financing, Moderna received \$36 million in reimbursement and product milestones from its collaborators. Also, upfront payments from new collaborations signed in 2016, plus a technical milestone from an existing collaboration, brought in \$290 million. When considered with the \$225 million in potentially available funding from grants and awards from foundations and government agencies, Moderna accessed over \$1 billion of cash and available grants during the year.
- **Strong Cash Position Affords Several Years of Runway:** As of December 31, 2016, Moderna had \$1.307 billion in cash, as compared to \$802 million as of December 31, 2015. This affords Moderna several years of runway to support its continued growth and pipeline acceleration.
- **Investments in the Business:** Moderna's gross cash investment in the business totaled approximately \$300 million in operating expense and capital expenditures. Net of reimbursements and product milestones, approximately \$260 million of cash was used for operating expense and capital expenditures.

"In 2017, we will remain focused on progressing our current development candidates to and through the clinic; discovering and bringing forth additional mRNA medicines as new development candidates; and continuing to invest heavily in our mRNA platform as well as the build-out of our GMP clinical manufacturing facility in Norwood, Mass. We also look forward to begin publishing data on our clinical programs as well as key insights related to our platform," said Stéphane Bancel, Moderna's Chief Executive Officer. "And we will continue to invest in building our team and working diligently to ensure that our employees continue to feel inspired and empowered every day to innovate and drive impact for patients."

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#### **About Moderna Therapeutics**

Moderna is a clinical stage pioneer of messenger RNA Therapeutics™, an entirely new *in vivo* drug technology that directs the body's cells to produce human proteins, antibodies and entirely novel protein constructs, which are in turn secreted or active intracellularly. With its breakthrough platform, Moderna is developing mRNA vaccines and therapeutics to address currently undruggable targets and deliver a new class of medicines for a wide range of diseases and conditions. Moderna is developing and plans to commercialize its innovative mRNA medicines for infectious diseases, cancer (immunoncology), rare diseases, cardiovascular disease and pulmonary disease, through its ecosystem of internal ventures and strategic partners.

Headquartered in Cambridge, Mass., privately held Moderna currently has strategic agreements with [AstraZeneca](#), [Merck](#), [Alexion Pharmaceuticals](#) and [Vertex Pharmaceuticals](#), as well as the Defense Advanced Research Projects Agency ([DARPA](#)), an agency of the U.S. Department of Defense; the Biomedical Advanced Research and Development Authority ([BARDA](#)), a division of the Office of the Assistant Secretary for Preparedness and Response (ASPR) within the U.S. Department of Health and Human Services (HHS); and the [Bill & Melinda Gates Foundation](#). To learn more, visit [www.modernatx.com](http://www.modernatx.com).

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