

America's biopharmaceutical companies are committed to developing solutions to help diagnose and treat those with COVID-19, a disease caused by a novel strain of coronavirus. In addition to applying their scientific expertise to find ways to diagnose, treat and prevent infections from the virus, the biopharmaceutical industry is providing financial support and in-kind donations to organizations and collaborating with

U.S. and global health authorities to combat this global public health emergency.

More than half of PhRMA members have R&D efforts under way or are providing donations of medicines and critical medical supplies as well as providing financial donations to support patients and first responders in addressing this evolving crisis.

Here are just a few ways America's research-based biopharmaceutical companies are working to combat the novel coronavirus:



DEVELOPING POTENTIAL NEW TREATMENTS AND VACCINES

As part of its commitment to finding solutions for patients with coronavirus and preventing others from becoming infected, PhRMA members have been donating investigational compounds that may have potential to treat coronavirus for emergency use and clinical trials, including compounds formerly tested on other viral pathogens such as Ebola and HIV. Other members are researching vaccine candidates for prevention and undertaking inventories of existing research portfolio libraries to identify additional potential treatments for research and development. Companies are also exploring ways to leverage existing technologies that provide the ability to rapidly upscale production once a potential vaccine candidate is identified.



PARTNERSHIPS

PhRMA member companies are collaborating with relevant U.S. and global public health authorities including the U.S. Food and Drug Administration (FDA), National Institutes of Health (NIH) and Centers for Disease Control and Prevention (CDC), as well as the World Health Organization (WHO), China public health authorities including the Chinese Center for Disease Control and Prevention and the European Medicines Agency, among many others to address this public health crisis. These collaborations are focused on all areas of research and development, including evaluating how pandemic preparedness platforms can potentially be tailored to address the coronavirus emergency, leveraging existing R&D partnerships to accelerate development of antiviral agents against COVID-19 and contribute both resources and expertise to various R&D consortia to address the outbreak.



MONETARY & IN-KIND SUPPORT

Millions of dollars of direct monetary and in-kind contributions are being used to support organizations at the heart of the crisis who are able to have an immediate impact for infected patients and communities. PhRMA member companies acted immediately on the ground globally to donate a variety of crucial supplies including advanced surgical equipment, antibiotics, disinfection equipment, batch virus testing devices (e.g., throat swabs), vitamins, protective clothing, goggles, masks, gloves and more.

PhRMA member companies are continuing to prioritize the continuity of their supply chains and are working proactively to prevent and mitigate any potential shortages through close coordination with the FDA and other global stakeholders.



SUPPLY CHAIN INTEGRITY

As the situation evolves, PhRMA companies are continuing to prioritize the continuity of their supply chains and are working proactively to prevent and mitigate any potential shortages through close coordination with the FDA and other global stakeholders.

Below is a snapshot of on-going PhRMA member company efforts to support the detection, prevention and treatment of the coronavirus outbreak. The below only represents a portion of the more than 50% of PhRMA's members who are engaged in this effort.

ABBVIE

AbbVie is collaborating with select health authorities and institutions globally on clinical research related to COVID-19. AbbVie is supporting clinical studies and basic research, working closely with European health authorities and the FDA, CDC, NIH and BARDA to coordinate on these efforts. This includes determining antiviral activity as well as efficacy and safety of KALETRA®/Aluvia (lopinavir/ritonavir), AbbVie's antiretroviral therapy for the treatment of HIV, against COVID-19.

AbbVie, Harbour BioMed (HBM), Utrecht University (UU) and Erasmus Medical Center (EMC) have entered into a collaboration to develop a novel antibody therapeutic to prevent and treat COVID-19. The focus of the collaboration is on advancing the fully human, neutralizing antibody 47D11 discovered by UU, EMC and HBM, which targets the conserved domain of the spike protein of SARS-CoV-2.

They continue to closely manage manufacturing and supply chain resources around the world to help ensure patients continue to receive an uninterrupted supply of their medicines.

Additionally, AbbVie donated \$35 million to help support underserved communities and health care systems working to address the impact of the COVID-19 global pandemic. AbbVie's partners are:

- + International Medical Corps to help create capacity to treat patients at overburdened hospitals. AbbVie's donation will support the creation and operation of mobile field hospitals in the U.S. that will provide capacity and create improved patient flow options as hospitals work to keep COVID-19 patients separated from other patients.
- + Direct Relief to help meet health care system needs in the hardest hit countries. This support will enable the procurement and delivery of oxygen concentrators, ventilators and personal protective equipment to healthcare systems and prioritize countries with high infection rates.
- + Feeding America to protect the most vulnerable, including the elderly, by enabling access to food and essential household supplies with minimal contact. Feeding America has created a new model of home delivery and drive-through service.

Included in the \$35 million is a reserve of \$5 million for a new AbbVie COVID-19 Community Resilience Fund for strengthening community resilience in under-resourced areas impacted by COVID-19. AbbVie is also doubling the AbbVie Foundation match for COVID-19-related contributions by employees. Instead of the typical 1:1 match, the AbbVie Foundation will match \$2 to every \$1 employees donate to a qualified nonprofit.

Additionally, AbbVie employees with relevant scientific, health care and other critical expertise who volunteer in times of pandemic crisis will continue to receive full pay and benefits during their temporary service period.

ALEXION

Alexion announced plans to initiate a global Phase III study to investigate ULTOMIRIS® (ravulizumab-cwvz) in a subset of adults with COVID-19 – those who are hospitalized with severe pneumonia or acute respiratory distress syndrome (ARDS). The study is expected to enroll approximately 270 patients across countries with high numbers of diagnosed cases, beginning in May of 2020, and will evaluate the impact of ULTOMIRIS, a biologic medicine, on survival, duration

ALEXION

of mechanical ventilation, and hospital stay compared to best supportive care. This follows the FDA rapid review and acceptance of Alexion's investigational new drug (IND) application for ULTOMIRIS for severe COVID-19.

The decision to begin this trial is based on a) published preclinical data suggesting that inhibition of terminal complement can lower cytokine and chemokine levels and significantly reduce lung inflammation and pathology in animal models of viral pneumonia, and b) elevated complement biomarkers and promising preliminary clinical evidence from patients who have accessed SOLIRIS® (eculizumab) through our compassionate use program, which suggests that complement inhibition may improve coronaviral-mediated lung injury.

Independent investigators have expressed interest in studying the potential of C5 inhibition in severe COVID-19 pneumonia, and we are aware of several ongoing or planned independent studies and anecdotal results from the use of our C5 inhibitors in patients with COVID-19. While these healthcare professionals continue to aggregate data regarding the potential of terminal complement inhibition in COVID-19 pneumonia from the approximately 100 patients who have been treated so far, Alexion believes that the outcomes reported to date warrant conducting a controlled clinical program to explore the impact of C5 inhibition with ULTOMIRIS and establish clinical evidence supporting the role of terminal complement in coronaviral pneumonia. We believe ULTOMIRIS represents the future of C5 inhibition, with its weight-based dosing, reduced burden on hospital systems due to less frequent dosing and it can be manufactured at a higher capacity, providing the opportunity to better meet future supply demands.

The Alexion Charitable Foundation is also donating a total of \$500,000 across three nonprofit organizations: The Center for Disaster Philanthropy's (CDP) COVID-19 Response Fund, The AmeriCares COVID-19 Response Fund and The World Health Organization's (WHO) Covid-19 Solidarity Response Fund.

Alexion Pharmaceuticals has also donated lab equipment and instruments to enable hospital laboratories in our surrounding communities of Massachusetts, Connecticut and Rhode Island to perform diagnostics testing, sample preparation and research to help meet the challenge of diagnosing and treating patients with COVID-19. This includes donations to the Massachusetts Life Sciences Emergency SupplyHub created by the Massachusetts Biotechnology Council (MassBio) to support the Massachusetts Emergency Management Agency (MEMA) state-wide coordination of supply requests, and to Yale New Haven Health coordinated through the New Haven Manufacturers Association.

ALKERMES

As a leader in mental health, Alkermes recognizes there are many people who will be disproportionately impacted by COVID-19 – particularly some of the most vulnerable members of society. Alkermes has made donations to five organizations in the local communities where it operates. These organizations focus on delivering food and support for low-income families and children, as well as seniors:

- ✦ Council on Aging and the Wilmington School District, two essential communities during this time of need (Ohio)
- ✦ Healthy Waltham, an organization providing food to children who normally depend on meals in schools and to seniors so they can remain at home and safe during this crisis (Massachusetts)
- ✦ ALONE, a program focused on caring for the elderly population during this vulnerable and isolating period (Ireland)
- ✦ Feeding America's COVID-19 Response Fund, the largest hunger-relief organization in the United States (U.S. field-based employees)

ALKERMES

In addition, Alkermes launched the COVID-19 Relief Fund, a special edition of the Alkermes Inspiration Grants® program designed to support COVID-19-related needs for people living with addiction, serious mental illness or cancer.

AMGEN

Amgen and Adaptive Biotechnologies announced a collaboration aimed at helping address the COVID-19 pandemic. The companies will combine expertise to discover and develop fully-human neutralizing antibodies targeting SARS-CoV-2 to potentially prevent or treat COVID-19. The mutually exclusive collaboration brings together Adaptive's proprietary immune medicine platform for the identification of virus-neutralizing antibodies with Amgen's expertise in immunology and novel antibody therapy development. Given the rapidly rising incidence of COVID-19 around the world, the companies will begin work immediately and finalize financial details and terms in the coming weeks.

Amgen's subsidiary, deCODE Genetics, alongside colleagues from Iceland's Directorate of Health and the National University Hospital published online in the New England Journal of Medicine a population-based study of the early spread of the SARS-CoV-2 virus (causing COVID-19 disease) in Iceland. The results show that roughly 0.8% of the population at large is infected with several strains or clades of the virus supporting the concern that silent carriers spread the disease. This suggests that while the efforts of the public health system have been effective so far in mitigating the spread to date, more data, including massive population screening, will be key to informing efforts to contain the virus in Iceland in the long run. This work to identify the various mutations will also be important in Amgen's collaboration with Adaptive to find antibodies that are broadly effective against different strains of SARS-CoV-2 and the various mutations those strains carry. Once the best antibody or antibodies are identified, Amgen will apply its expertise in genetics, immunology, antibody engineering, and manufacturing to optimize, develop, and produce a therapy designed to treat and prevent COVID-19 infection.

Amgen is further exploring whether its medicine Otezla® (apremilast), an oral treatment approved in more than 50 countries for inflammatory diseases such as psoriasis and psoriatic arthritis, will be investigated as a potential immunomodulatory treatment in adult patients with COVID-19 in upcoming platform trials. Otezla inhibits the activity of phosphodiesterase 4 (PDE4), an enzyme found in inflammatory cells in the human body. By inhibiting PDE4, Otezla is thought to modulate the production of inflammatory cytokines and other mediators, which may prove helpful in inhibiting the inflammatory response associated with the signs, symptoms and pulmonary involvements observed in some COVID-19 patients.

Amgen and the Amgen Foundation announced an initial commitment of up to \$12.5 million to support U.S. and global relief efforts to address critical needs in communities impacted by the COVID-19 pandemic. The funds will be used to support emergency response efforts in Amgen's U.S. and international communities, patient-focused organizations that are mounting their own response efforts and international relief efforts by Direct Relief and International Medical Corps. The Amgen Foundation is also matching donations made by Amgen staff around the globe who wish to contribute their own funds to the relief efforts.

In addition, the Amgen Foundation seeks to advance excellence in science education and inspire the next generation of innovators:

- ✦ In January, the Amgen Foundation and Harvard's Faculty of Arts and Sciences launched LabXchange, a free online science education platform that provides users access to personalized instruction, virtual lab experiences and networking opportunities across the global scientific community. As the founding sponsor, the Amgen Foundation awarded \$11.5 million in grant funding to Harvard to deepen the impact of this new online learning platform across the globe.

AMGEN

- + The Amgen Foundation is the founding biology partner of the Khan Academy, a leading innovative and effective educational technology platform with over 70 million registered users across the globe.
- + Free online learning programs supported through both of these deep relationships are available to help students continue their science education during school closures, and can be accessed via the LabXchange and Khan Academy's online learning websites.

ASTELLAS

Astellas Pharma US (Astellas) and the Astellas Global Health Foundation are each expanding support for global and local communities fighting COVID-19 by providing up to \$2 million of new financial assistance, in aggregate, to meet the urgent demand for resources to help patients, health care workers and first responders.

At a national level in the United States, Astellas is preparing to help humanitarian organizations working to support communities due to the COVID-19 outbreak. This includes Astellas corporate donations to Americares, the American Red Cross and Direct Relief to help their emergency efforts. The company also is coordinating opportunities to mobilize equipment, personal protective equipment (PPE) donations, blood donations in alignment with Centers for Disease Control and Prevention guidance, employee contributions and volunteerism to meet the critical demand for time and resources where needs are most pressing.

Locally at Astellas' US-headquarters in Illinois, Astellas is partnering with multiple state organizations with their response to COVID-19, as a Founding Partner to the Governor's Illinois COVID-19 Response Fund and the Illinois Biotechnology Innovation Organization (iBIO) COVID-19 PPE Relief Fund.

To assist health care systems coping with increasing demands presented by the escalation of COVID-19 around the world, Astellas will provide paid time off to Astellas employees who are medically qualified practitioners, medically qualified volunteers or individuals seeking to support organizations looking in their local communities.

ASTRAZENECA

AstraZeneca across the world is responding to the COVID-19 pandemic consistent with its values to follow the science, put patients first and do the right thing. The Company has progressed a number of initiatives to ensure the continued supply of our medicines to patients, to safeguard the health and wellbeing of all our employees and communities, and to make available a potential vaccine or treatment options for the virus.

- + To help contain the spread of the virus, AstraZeneca donated nine million face masks to support healthcare workers around the world, and partnered with the World Economic Forum's COVID Action Platform to identify the countries in greatest need. In the U.S., AstraZeneca donated to the CDC Foundation to expand U.S. testing and data capabilities and deploy emergency staffing on the front lines at the state and local level.
- + In late April, AstraZeneca and the University of Oxford announced an agreement for the global development and distribution of the University's potential recombinant adenovirus vaccine aimed at preventing COVID-19 infection from SARS-CoV-2. Under the agreement, AstraZeneca is responsible for development and worldwide manufacturing and distribution of the vaccine if the clinical trials prove successful in showing the vaccine is effective.
- + A month later, on May 21, AstraZeneca announced an agreement with the U.S. Government for the development, production and delivery of 300 million doses of the potential new vaccine. AstraZeneca will deliver the first doses as early as October 2020 and additional doses in 2021. The development program includes a Phase III clinical trial with 30,000 participants and a pediatric trial.
- + In early June, AstraZeneca announced agreements with CEPI, Gavi and the Serum

ASTRAZENECA

Institute of India (SII) that will bring the vaccine to low-and-middle income countries and beyond. The agreements with CEPI and Gavi are for the manufacturing, procurement and distribution of 300 million doses of the vaccine. The agreement with SII is to manufacture and supply one billion doses to low-and middle-income countries.

- + Most recently, on June 13, AstraZeneca reached an agreement with Europe's Inclusive Vaccines Alliance (IVA), spearheaded by Germany, France, Italy and the Netherlands, to supply up to 400 million doses of the potential COVID-19 vaccine.
- + AstraZeneca has secured global supply capacity to exceed two billion doses. Other agreements are continuing to be secured to deliver AstraZeneca's commitment to ensure global access. These agreements are happening in parallel to ensure broad and equitable supply of the vaccine throughout the world at no profit during the pandemic.
- + AstraZeneca has also quickly mobilized global research efforts to discover novel coronavirus-neutralizing antibodies to prevent and treat progression of the COVID-19 disease, with the aim of reaching clinical trials in the next three to five months. Additionally, the Company has moved into testing of new and existing medicines across multiple therapy areas (CVRM, Oncology) to treat the infection.
- + Furthering the advancement towards the discovery of novel coronavirus-neutralizing antibodies to prevent and treat the progression of COVID-19, AstraZeneca has signed new agreements with academia and U.S. government agencies and confirms plans to progress a combination approach consisting of a pair of monoclonal antibodies (mAbs).

BAYER

Bayer is donating 3 million tablets of the drug Resochin (chloroquine phosphate) to the U.S. Government to support its efforts in the fight against COVID-19. Resochin, a product discovered by Bayer in 1934 and indicated for prevention and treatment of malaria, may have potential in treating patients with COVID-19 infection, based on new and limited data from initial preclinical and evolving clinical research conducted in China. Bayer has also made a \$250,000 commitment to the Berkeley Relief Fund, an initiative by the Berkeley, California, City Council to provide emergency relief grants for small businesses, nonprofit arts organizations and worker rent support. In addition, Bayer has provided substantial financial donations and donations of several medicines to the Chinese Red Cross, which is working with Chinese health authorities to coordinate the deployment of aid measures to support those affected by the outbreak of COVID-19 there. Bayer is also supporting hospitals in Lombardy, Italy, with a donation of one million euros. The aid is being added to an aid fund that the regional authorities in Lombardy have set up to help procure urgently needed equipment for intensive care units in hospitals with the greatest needs. Bayer will continue to provide affected regions and countries with rapid and unbureaucratic assistance as part of its corporate social responsibility.

BIOGEN

The Biogen Foundation has committed \$10 million to support global response efforts and communities around the world impacted by the COVID-19 pandemic. The funds will be used to address immediate critical needs, with the majority of donations going to support non-profit organizations in the U.S., including Massachusetts and North Carolina, in Italy and in other impacted countries worldwide. This donation will be used to help expand testing options, ease the strain on medical systems, provide training for front line health workers and support access to necessities like food. This adds to the donation made by Biogen China to the Red Cross Society of China. The company has also provided medical equipment and supplies to Partners HealthCare in Massachusetts, to help diagnose COVID-19 in a greater number of people. Partners HealthCare is one of the largest providers of healthcare services in the Boston area. Biogen will also be supporting Massachusetts General Hospital and Brigham and Women's Hospital directly as they work on the front line to treat and contain the virus.

**BOEHRINGER
INGELHEIM**

Boehringer Ingelheim (BI) is standing together with all parties to support the fight against the COVID-19 pandemic while taking action to protect employees' health and safety. BI is continually assessing what additional measures they can take to help its patients and communities. The company's focus remains on assuring the ongoing supply of BI medicines for its human and animal patients in the U.S. and around the world. In addition, BI made financial contributions totaling over \$1 million to protect health care professionals in the critical services they are providing to patients. BI donated medicines and medical supplies. Its teams are conducting a computational screen of our entire library of over one million compounds and are investigating the activity of selected existing small molecule compounds from our former antiviral research against SARS-CoV2.

At a local level, BI is redeploying the hard-working employees who support its U.S. cafeterias to prepare meals to donate to those whose access to food is a struggle. The company's U.S. Boehringer Ingelheim Cares Foundation (BI Cares), an independent nonprofit organization, is making monetary donations and donating urgently needed medicines for patients through its non-governmental organization (NGO) partners. BI Cares added a new cause to its Matching Gifts Program to provide BI U.S. employees the opportunity to double the impact of their charitable giving to a fund being used to prevent the spread of and help those affected by COVID-19. Additionally, the Foundation is conducting employee engagement campaigns to raise funds to donate to nonprofits near our U.S. sites that are distributing groceries to food insecure individuals and families.

BI's Global Support Program aims to bring more financial relief, protective materials and medicine donations to health care institutions and communities in need around the world. The program focuses on four areas:

- + **Donations:** BI has made available €7 million for financial and in-kind donations for local emergency aid across the globe. They are also working with local organizations that use financial and medicine donations to organize help for patients in their communities.
- + **Research for COVID-19 therapies:** Since January, BI has freed up a growing team of currently more than 100 highly engaged scientists from all areas of research and development, to work on projects aimed at finding potential treatment solutions for COVID-19. As this work evolves, BI will commit further experts from multiple disciplines, as well as increased lab capacity.
- + **Volunteering:** In many communities, helping hands from volunteers, for example with a medical or nursing background, are urgently needed. BI offers all 51,000 employees the opportunity to take up to 10 days of paid leave to join approved external organizations as a volunteer to bring COVID-19 relief.
- + **Making More Health relief fund:** A €580,000 relief fund has been launched to support the global Making More Health network of social entrepreneurs in Kenya and India, as well as the communities in which they live and work.

Together with life science companies around the world, BI joined the COVID-19 Therapeutics Accelerator of the Bill and Melinda Gates Foundation to fight the pandemic. The collaboration aims to accelerate the development, manufacture, and delivery of vaccines, diagnostics and treatments for COVID-19. Boehringer Ingelheim will contribute its historic molecules, which the Accelerator will be testing. To identify candidate compounds, the Accelerator will take a three-pronged approach: testing approved drugs for activity against COVID-19, screening compounds with confirmed safety data, and considering new investigational compounds and monoclonal antibodies.

BRISTOL MYERS SQUIBB

- + Bristol Myers Squibb and the Bristol Myers Squibb Foundation, a 501(c)(3) organization, are actively and separately contributing to relief efforts around the world. Together, Bristol Myers Squibb and the Bristol Myers Squibb Foundation have contributed more than \$22 million in financial support and needed products (e.g. PPE and medical equipment) to relief efforts in 40 countries.
- + The Bristol Myers Squibb Foundation has supported nearly 50 organizations in the U.S. that provide critical aid and more than 150 organizations across Africa, Asia, Europe, North America and South America that ensure basic human needs and enable continued patient care, along with global organizations supporting those on the frontlines of the COVID-19 response.
- + The Bristol Myers Squibb Foundation has contributed to more than 40 patient advocacy groups and professional societies on the frontlines of patient care, and Bristol Myers Squibb is engaging with more than 250 patient and professional organizations to support research, education, patient psychosocial support and basic human needs.
- + Bristol Myers Squibb is working with researchers, the biotech community and the broader life sciences industry on ways we together can accelerate therapies for COVID-19.
- + Among other efforts, we have identified approximately 1,000 compounds in our discovery library that we're making available to collaborators for screening for potential molecules to treat COVID-19.

DAIICHI SANKYO

Daiichi Sankyo is actively engaged in various measures and initiatives to combat the spread of COVID-19, including:

- + **Vaccines and Therapeutics:** Daiichi Sankyo's R&D team in Japan established a company-wide task force to promote research and development of vaccines and therapeutic agents targeting COVID-19. By leveraging their past and present research properties, technologies and accumulated R&D knowledge, and in collaboration with external institutions, they are proactively involved in the development of a treatment for COVID-19.
- + **Relief Funding:** Daiichi Sankyo Group companies have allocated financial donations to a variety of organizations including to the COVID-19 Solidarity Response Fund, the Chinese Red Cross Association, the American Red Cross, Americares and various non-profit organizations dedicated to oncology patients globally. Daiichi Sankyo also donated protective personal equipment to a California hospital system.
- + **Volunteerism and Employee Support:** Daiichi Sankyo, Inc. is allowing employees with appropriate medical or health care credentials to take paid time away from work to volunteer alongside health care providers to support patient care and to help alleviate the pressure on those on the frontlines. In addition, their affiliates globally have established a wide variety of support programs and activities to help employees and consultants navigate through this crisis.
- + **Supply Chain and Clinical Trials:** Daiichi Sankyo is working tirelessly to ensure ongoing safe supply of their medicines to the patients who need them. Furthermore, their Clinical Trials Task Force continues to provide support for investigators based on the most recent guidance on the conduct of clinical trials of medical products during the COVID-19 pandemic issued by several global health authorities, such as the U.S. Food and Drug Administration, Japan's Pharmaceuticals and Medical Devices Agency and the European Medicines Agency.

EISAI, INC.

Eisai, Inc. has donated PPE to Hackensack Meridian Health in New Jersey and the Kaiser Health System in California. In addition, Eisai has provided funds to fast-acting patient advocacy organizations who are getting relief to patients in need.

ELI LILLY AND COMPANY

Lilly is committed to doing everything possible to bring the full force of its scientific and medical expertise to attack the coronavirus pandemic. The company announced it has entered into an agreement with AbCellera to co-develop antibodies for the potential treatment and prevention of COVID-19, the disease caused by the SARS-CoV-2 novel coronavirus. The collaboration will leverage AbCellera's rapid pandemic response platform, developed under the DARPA Pandemic Prevention Platform (P3) Program, and Lilly's global capabilities for rapid development, manufacturing and distribution of therapeutic antibodies. Lilly and Junshi Biosciences have also entered into an agreement to co-develop therapeutic antibodies for the potential prevention and treatment of COVID-19. Lilly is also testing existing medicines with potential to address COVID-19, including through an agreement with the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH) to participate in NIAID's Adaptive COVID-19 Treatment Trial.

On June 1, 2020, Lilly announced patients have been dosed in the world's first study of a potential antibody treatment designed to fight COVID-19. This investigational medicine, referred to as LY-CoV555, is the first to emerge from the collaboration between Lilly and AbCellera to create antibody therapies for the prevention and treatment of COVID-19. Lilly scientists rapidly developed the antibody in just three months after AbCellera and the Vaccine Research Center at the NIAID identified it from a blood sample taken from one of the first U.S. patients who recovered from COVID-19. LY-CoV555 is the first potential new antibody therapy specifically designed to attack SARS-CoV-2, the virus that causes COVID-19. The first patients in the study were dosed at major medical centers in the U.S., including NYU Grossman School of Medicine and Cedars-Sinai in Los Angeles.

Additionally, Lilly scientists partnered with the Indiana State Department of Health, with support from the FDA, to accelerate testing in Indiana for SARS-CoV-2. Lilly is using its specialized research laboratories to analyze samples taken in Indiana health care facilities, including nursing homes and emergency rooms. In addition, Lilly launched a drive-through testing facility at its corporate headquarters in an effort to protect people working on the front lines of this epidemic. Lilly tested over 60,000 samples, a combination of samples from drive-through and Indiana State Department of Health's testing efforts. Lilly did not accept payment from government agencies, hospitals, insurance companies or patients for conducting or analyzing tests.

Lilly is also closely monitoring its supply chain and does not currently anticipate shortages for any of their medicines, including all forms of insulin. Additionally, Lilly and the Lilly Foundation are actively engaged with community partners to address new and complex challenges arising from the coronavirus, including the economic impact on vulnerable people.

EMD SERONO

Merck KGaA, Darmstadt, Germany* is dedicated to serving patients, scientists and health care providers in the U.S. and around the world – now more than ever. They actively contribute resources as well as dedication and expertise to fight the COVID-19 pandemic, while continuing to supply medicines for those who are among the most vulnerable in the pandemic—patients affected by serious diseases.

Merck KGaA, Darmstadt, Germany is committing to support the investigation of potential therapeutics for COVID-19. The company donated a supply of interferon beta-1a (Rebif®) to the French Institut National de la Santé et de la Recherche Médicale (INSERM) following a request for use in a clinical trial. To date, Merck KGaA, Darmstadt, Germany's interferon beta-1a is not approved by any regulatory authority for the treatment of COVID-19 or for use as an antiviral agent.

EMD SERONO

Merck KGaA, Darmstadt, Germany is contributing to scientific progress to fight COVID-19 through collaborations and research funding. Together, they are collaborating with the Bill & Melinda Gates Therapeutic Accelerator to quicken the development, manufacture and delivery of vaccines, diagnostics and treatments for COVID-19. Overall, the spread of the coronavirus also stresses the importance of pandemic preparedness – a topic that Merck KGaA, Darmstadt, Germany continues to support with the €1 million Future Insight Prize.

The company is also supporting those impacted by the COVID-19 pandemic – whether patients, the community, or those on the front lines. Merck KGaA, Darmstadt, Germany donated 2 million respiratory masks in the US, Germany, France and other countries to support healthcare workers. The company supported China's fight against the coronavirus with multiple donation efforts in cash and kind to three well respected local charitable organizations in order to support much needed medical aid. This includes products to support local institutions and invitro diagnostic manufactures to accelerate research, as well as virus diagnosis and testing efforts and personal protective equipment.

Merck KGaA, Darmstadt, Germany is dedicated to continue to provide patients living with serious diseases with the medication they need each and every day by providing continuity of treatment for clinical trial participants and supplying medicines for those most vulnerable in this pandemic.

**The biopharma business of Merck KGaA, Darmstadt, Germany operates as EMD Serono in the U.S. and Canada.*

GENENTECH, A
MEMBER OF THE
ROCHE GROUP

Genentech is conducting two Phase III clinical trials to evaluate the safety and efficacy of Actemra® (tocilizumab) in COVID-19.

- + EMPACTA is focused on recruiting patients at trial sites that treat a high percentage of underserved and minority populations that often do not have access to clinical trials.
- + REMDACTA is in partnership with Gilead Sciences to evaluate the safety and efficacy of Actemra combined with Gilead's investigational antiviral remdesivir, versus placebo plus remdesivir in hospitalized patients with severe COVID-19 pneumonia.
- + Additionally, Genentech is providing 10,000 vials of Actemra to the U.S. Strategic National Stockpile for potential future use at the direction of the U.S. Department of Health and Human Services (HHS).

Genentech is also conducting a Phase II clinical trial (COVASTIL) evaluating two early-stage investigational medicines in hospitalized adult patients with severe COVID-19 pneumonia.

Along with vital scientific advancement, Genentech and the Genentech Foundation have announced charitable commitments of \$42 million to help address the devastating societal impact of the COVID-19 pandemic. They are working closely with government organizations, patient and community groups, health systems and schools to identify the areas of greatest need, build resiliency and address emerging equity gaps.

Additionally, Roche Diagnostics has received FDA Emergency Use Authorization for several high-quality tests.

- + cobas® SARS-CoV-2 - a high-volume molecular test to detect the novel virus that causes COVID-19
- + Elecsys® Anti-SARS-CoV-2 - a serology (blood) test that can help determine if a patient has developed antibodies against SARS-CoV-2
- + Elecsys® IL-6 - a biomarker test to assist in identifying severe inflammatory response in patients with confirmed COVID-19

GILEAD SCIENCES

Gilead is harnessing decades of antiviral expertise to rapidly respond to the COVID-19 pandemic. As a company, Gilead is committed to putting its resources and research to bear to advance treatments that may help in the global response to this public health emergency. Gilead has:

- + Initiated Phase III studies to evaluate the safety and efficacy of the investigational antiviral remdesivir in adults diagnosed with COVID-19. The company is also supporting additional clinical trials globally with study drug.
- + Recently announced that it will donate existing supply of remdesivir, equaling 1.5 million individual doses for the treatment of patients with severe COVID-19 infection globally, for clinical trials, compassionate use or expanded access programs and following potential future regulatory authorizations.
- + Accelerated and expanded manufacturing of remdesivir to increase its available drug supply as rapidly as possible, setting a goal of manufacturing more than 1 million treatment courses by the end of 2020 and several million treatment courses in 2021.
- + Established a \$20 million philanthropic fund, the Gilead CARES (COVID-19 Acute Relief and Emergency Support) Grantee Fund, to support nonprofit organizations impacted by the COVID-19 crisis, alongside other community donations.

Across all its efforts, Gilead is collaborating with government agencies, academic institutions, non-profit organizations and individual researchers and clinicians, to share information and efficiently deploy resources globally to help patients and communities fighting COVID-19.

GLAXOSMITH-KLINE

GlaxoSmithKline (GSK) is closely monitoring the COVID-19 pandemic and is supporting global efforts to tackle the virus. From the onset, GSK has been actively exploring ways to help, with science and expertise, alongside protecting the health and wellbeing of its people and managing the company's global supply chains to support patients and consumers who depend on GSK products.

GSK is taking the following actions to support the global response to COVID-19:

- + GSK and Sanofi are collaborating to develop an adjuvanted vaccine for COVID-19, using innovative technology from both companies, to help address the ongoing pandemic. Sanofi contributed its S-protein COVID-19 antigen, which is based on recombinant DNA technology. GSK contributed its proven pandemic adjuvant technology to the collaboration. The use of an adjuvant can be of particular importance in a pandemic situation since it may reduce the amount of vaccine protein required per dose, allowing more vaccine doses to be produced and therefore contributing to protect more people.
- + GSK has confirmed its intention to manufacture 1 billion doses of its pandemic vaccine adjuvant system in 2021 to support the development of multiple adjuvanted COVID-19 vaccine candidates. This follows completion of a review conducted across the company's global supply network. GSK will manufacture, fill and finish adjuvant for use in COVID-19 vaccines at sites in the UK, US, Canada and Europe.
- + GSK entered into a collaboration to find coronavirus solutions with Vir Biotechnology. The collaboration uses Vir's proprietary monoclonal antibody platform technology to accelerate existing and identify new anti-viral antibodies that could be used as therapeutic or preventative options to help address the current COVID-19 pandemic and future outbreaks. The companies will leverage GSK's expertise in functional genomics and combine their capabilities in CRISPR screening and artificial intelligence to identify anti-coronavirus compounds that target cellular host genes. They will also apply their combined expertise to research SARS-CoV-2 and other coronavirus vaccines.

GLAXOSMITH-
KLINE

- + Donating \$10 million to WHO and the UN Foundation's COVID-19 Solidarity Response Fund to support WHO and partners prevent, detect and manage the pandemic, particularly where the needs are the greatest.
- + Expansion of vaccines collaborations—GSK is now working with five partner companies and research groups across the world, including in the USA and China. These include partnerships with the University of Queensland, Clover Biopharmaceuticals, and Xiamen Innovax Biotech Co., Ltd. to make its vaccine adjuvant technology available to support their respective COVID-19 vaccine research programs. The use of an adjuvant is of particular importance in a pandemic situation since it may reduce the amount of vaccine protein required per dose, allowing more vaccine doses to be produced, and therefore contributing to the protection of more people.
- + GSK is collaborating with the COVID-19 Therapeutics Accelerator, making available compounds from its libraries for screening, with the aim of bringing forward the most promising molecules that could be used to treat cases of COVID-19.
- + Evaluating its marketed medicines and those in development to determine if any could be used beyond their current indications and evaluating options to make available specialized laboratory space to help in research and testing of COVID-19.
 - + Through this screening process, GSK has identified otilimab, an anti-GM-CSF (anti-granulocyte macrophage colony-stimulating factor) monoclonal antibody, currently in Phase III development for rheumatoid arthritis, as a potential candidate molecule for patients who have been hospitalized with severe pulmonary COVID-19 related disease. These severe secondary complications of COVID-19 are caused by an over-reaction of the body's immune system to fight the virus and GSK believes that otilimab can help control this process and plans to start the Phase II study imminently.
- + GSK has donated surplus reagents to countries to support diagnostic testing, preparing to do the same for surplus personal protective equipment (PPE) and have initiated new volunteering processes for employees, to enable those with medical or specialist expertise to provide support to frontline health workers and national governments.

GSK continues to monitor the situation closely and take actions to develop its response to the pandemic. In doing so, GSK will continue to put the needs of patients and the company's people first at all times.

INCYTE

Incyte is closely monitoring the evolving COVID-19 pandemic. The company's primary focus is on ensuring patients have access to the medicines they need while safeguarding the health and safety of its employees.

Incyte has initiated RUXCOVID, a global, randomized, double-blind, placebo-controlled Phase III clinical trial evaluating the efficacy and safety of ruxolitinib (Jakafi®) plus standard-of-care (SoC) in patients aged ≥12 years with COVID-19 associated cytokine storm. Incyte has also initiated an Expanded Access Program to allow eligible patients with COVID-19 associated cytokine storm to receive ruxolitinib while it is being investigated for this indication.

Additionally, Incyte is committed to supporting its local communities, particularly during this unprecedented time of need. To date, Incyte has made several contributions, including:

- + Supplies, including personal protective equipment (PPE), from Incyte's laboratories in Wilmington, DE, have been donated to local Delaware hospitals.
- + Incyte has also donated to the Food Bank of Delaware to cover the costs of increased food distribution and pre-made weekend meal kits.

INCYTE

- + Incyte Italy has made a donation to fund the purchase of hospital equipment and goods to support patients, hospitals, healthcare facilities and providers in the critically affected Lombardy region.
- + Along with other companies, Incyte supported The Leukemia & Lymphoma Society COVID-19 Patient Financial Aid program, aimed at providing financial assistance to eligible patients for food, non-medical and other day-to-day expenses that may arise due to loss of income.

JOHNSON & JOHNSON

Johnson & Johnson is mobilizing its global reach, deep scientific expertise, extensive partnerships and financial stability to address the critical needs of families, communities, health care professionals and its employees around the world.

Building on the groundbreaking science and scalable production platforms that were used to construct Ebola, Zika and HIV investigational vaccine candidates, Johnson & Johnson is committed to bringing a safe and effective vaccine to the public on a not-for-profit basis for emergency pandemic use as soon as early 2021, provided the investigational vaccine is safe and effective. Johnson & Johnson has selected a COVID-19 vaccine candidate from constructs they have been working on since January 2020 and is working closely with global partners to identify devices and potential treatments that could contribute to providing immediate relief to the current pandemic.

Johnson & Johnson has been collaborating with regulators, health care organizations, institutions and communities worldwide to help ensure research platforms, existing science and outbreak expertise can be maximized to stem this public health crisis.

- + Johnson & Johnson is working in collaboration with the Beth Israel Deaconess Medical Center (BIDMC) to support the development of a preventive vaccine candidate for COVID-19.
- + The Biomedical Advanced Research and Development Authority (BARDA), part of the U.S. Department of Health and Human Services, and Johnson & Johnson together have committed more than \$1 billion of investment to co-fund vaccine research, development, and clinical testing.
- + On August 5, 2020 Johnson & Johnson announced its Janssen Pharmaceutical Companies have entered into an agreement with the U.S. government for the large scale domestic manufacturing and delivery of 100 million doses of Janssen's SARS-CoV-2 investigational vaccine, Ad26.COV2.S, for use in the United States following approval or Emergency Use Authorization by the FDA.
- + The company's preclinical data, which were published in the journal Science, validated the preclinical vaccine challenge model and showed that prototype DNA vaccines were able to elicit an immunity.
- + On July 30, 2020 Johnson & Johnson announced the findings of the preclinical study conducted in collaboration with Beth Israel Deaconess Medical Center. The data, published in Nature, show the investigational vaccine elicited an immune response as demonstrated by "neutralizing antibodies," successfully preventing subsequent infection in all the non-human primates (NHPs) involved in the study.
- + Based on this total package of pre-clinical results, the company initiated Phase 1/2a studies, which it kicked off in late-July.
- + Johnson & Johnson is in discussions with the National Institutes of Health with the objective to start the Phase 3 clinical trial ahead of its original schedule, potentially in late September, to evaluate the effectiveness of the investigational vaccine.

JOHNSON & JOHNSON

- + The Janssen Pharmaceutical Companies of Johnson & Johnson have entered into collaborations with Emergent BioSolutions, Inc. and Catalent Biologics to support the manufacturing of its lead investigational vaccine candidate. These are the first in a series of prospective global collaboration agreements designed to further Johnson & Johnson’s goal to supply more than one billion doses of the vaccine globally through the course of 2021, provided the investigational vaccine is safe and effective.
- + Through its Innovation Centers and Business Development teams across the Johnson & Johnson global innovation network, Johnson & Johnson has been reviewing novel science and technologies to help address the pandemic. Having screened over 100 ideas related to potential vaccines, antiviral therapeutics and diagnostics/consumer aids since the outbreak began, several are under detailed evaluation. More than 60 resident companies in their global incubator network Johnson & Johnson Innovation – JLABS are currently exploring novel approaches to help address the COVID-19 pandemic.
- + Johnson & Johnson is also delivering critical support for communities and health workers on the front lines. At the outset of the pandemic, the Johnson & Johnson Family of Companies and Johnson & Johnson Foundation committed \$50 million to support and supply frontline health workers. This commitment expands upon a \$250 million multi-year commitment made earlier this year to support those at the frontlines.
- + The COVID-19 pandemic is disproportionately impacting communities of color. While no single organization can solve the full range of challenges exacerbated by the global public health crisis of the coronavirus pandemic, Johnson & Johnson is working to advance racial and ethnic health equality through a series of targeted COVID-19 programs and collaborations.
 - + Johnson & Johnson is exploring ways to contribute to the body of research generating deeper and more granular insights into how COVID-19 is impacting diverse communities. This research, which will be conducted at a national and county level, will be used to develop shareable insights and resources, submitted for publication, shared with policymakers and disseminated as a public good. Johnson & Johnson hopes to collect some of this information through our partnerships on clinical trials.
 - + They are also working directly with many branches of government, as well as partnering with advocates, NGOs and leaders like the Congressional Black Caucus, to lend its voice, expertise and perspective to improving health outcomes in Black communities. Johnson & Johnson testified before the U.S. House of Representatives Energy and Commerce Committee on its vaccine research and manufacturing efforts. Additionally, Johnson & Johnson was one of a few companies to sign on to a coalition letter to Congressional leaders in the U.S. calling for increased and improved data collection and dissemination for COVID-19 patients. They have taken the position that without timely and systematic collection of this health data, we will not be able to fully understand – and address – the pandemic and its disproportionate impact on communities of color.
 - + In company-sponsored COVID-19 clinical trials, Johnson & Johnson is leveraging a special engagement strategy that includes a digital and community outreach plan to provide resources to help identify opportunities to participate in clinical research, identifying and implementing ways to reduce operational barriers and patient burden, applying lessons from other trial recruitment efforts and educating Black and Brown communities across the U.S. about clinical trials and the importance of participation.

LUNDBECK

As an organization dedicated to improving the lives of people affected by brain diseases, with a particular focus on supporting the mental health of individuals across the globe, Lundbeck is working to support communities that may be most impacted by the COVID-19 outbreak. Lundbeck North America has committed \$1 million in support of COVID-19 relief efforts and

LUNDBECK

is donating to COVID Response Funds in regions where we have a meaningful presence, with significant donations from the Lundbeck US Charitable Fund to Response Funds in Illinois, Seattle and San Diego. These donations will enable local nonprofit organizations to provide interim housing and shelter, direct financial assistance, and primary healthcare and mental healthcare services to vulnerable community members. The company also is taking action to bolster our health care system's ability to respond to the pandemic through support of the Illinois Biotechnology Innovation Organization (iBio) COVID-19 PPE Relief Fund, which will secure protective medical products for Illinois-based health care workers and first responders. The Lundbeck US Charitable Fund made a significant donation to the Center for Disaster Philanthropy COVID-19 Response Fund, which focuses on nonprofit organizations working directly to support health care workers and respond to the pandemic among the most vulnerable populations. Lundbeck's La Jolla Research Center donated a large portion of its inventory of disposable gloves to California healthcare workers in local area hospitals. Across the globe, the company's local affiliates are supporting relief organizations; early in the pandemic, Lundbeck China donated 1 million Chinese Yuan to the Red Cross Foundation to support the front-line workers in the city of Wuhan. And the Lundbeck Foundation, which owns 70% of Lundbeck, has earmarked DKK 30 million (USD 4.3 million) for research projects targeting the current coronavirus pandemic.

MERCK

As a company dedicated to saving and improving lives for more than 100 years, Merck has a special responsibility to help in the fight against COVID-19. Merck has been fully committed to developing an effective response to the COVID-19 pandemic since it was first recognized, and knows that success will require global collaboration among countries and companies and more. In May Merck announced two COVID-19 vaccine development efforts – a collaboration with IAVI and plans to acquire Themis Bioscience, a company focused on vaccines and immunomodulation therapies for infectious diseases, including COVID-19. They also announced a research collaboration with Ridgeback Biotherapeutics to develop a novel oral antiviral candidate for the treatment of COVID-19. In addition to the collaborations with IAVI and Ridgeback Bio, and the acquisition of Themis, they are participating in a research collaboration with the Institute for Systems Biology to investigate and define the molecular mechanisms of SARS-CoV-2 infection and COVID-19 and identify targets for medicines and vaccines, as well as the NIH-led Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV consortium). ACTIV is a partnership that aims to develop a collaborative framework for prioritizing vaccine and drug candidates, streamlining clinical trials and regulatory processes, and/or leveraging assets among all partners to rapidly respond to the COVID-19 and future pandemics. Merck believes a range of medicines and vaccines will be needed to end the pandemic, and they will continue to pursue multiple pathways and collaborate with others.

The company has also provided a half a million personal protective masks to New York City for use as part of urgent efforts to address the outbreak in New York. The company has also donated 300,000 masks for New Jersey. Additionally, through Merck for Mothers, the company's global initiative to help end preventable maternal deaths, the company provided \$3 million to help health systems better meet the needs of pregnant women before, during and following delivery while tackling COVID-19. Merck for Mothers directed investments to efforts in the U.S. and globally in countries impacted by COVID-19 to help address maternal health challenges that are arising as a result of the pandemic.

NOVARTIS

In the face of a global crisis, Novartis has quickly mobilized R&D capabilities, medicines, clinical trials expertise and philanthropic aid to address the coronavirus pandemic. Novartis has made contributions upwards of USD 40 million to over 60 projects around the world that support local communities impacted by this crisis. These include major donations to strengthen medical infrastructure and provide on-site support in many countries. In addition, Novartis and the

NOVARTIS

Novartis US Foundation have also established \$5 million U.S. COVID-19 Community Response Fund for immediate response and recovery efforts related to the pandemic in U.S. communities. The company is also undertaking several efforts to leverage their capabilities in discovery, development and scale-up manufacturing. They are partnering with multi-stakeholder external consortia, including COVID-19 Therapeutics Accelerator, coordinated by the Bill & Melinda Gates Foundation, Wellcome Trust and MasterCard.

Novartis is leading, partnering and supporting the identification of therapeutic candidates against coronavirus. They have hand-selected a library of compounds with activity against viral targets of relevance to COVID-19, and they're working with a consortium of academic institutions and companies that is looking to screen compounds at an appropriate laboratory facility. Novartis is also spearheading a collaborative effort to make direct-acting anti-viral compounds to the coronavirus family, including COVID-19, SARS and MERS. This early-stage drug discovery work builds on the collaboration that formed the Novartis-Berkeley Center for Proteomics and Chemistry Technologies. The new open-science effort will target a piece of machinery that's shared by several known coronaviruses.

Furthermore, the AAVCOVID vaccine program at Massachusetts Eye and Ear and Massachusetts General Hospital, members of Mass General Brigham, has entered into a manufacturing agreement to produce its novel genetic vaccine with an industry leader in gene therapy, AveXis, a Novartis Company. AveXis will begin manufacturing the vaccine this month while AAVCOVID undergoes further safety and efficacy testing in preclinical studies taking place at academic medical institutions including Mass. Eye and Ear.

Together with the research community, Novartis is assessing whether clinical-stage investigational or approved medicines could be repurposed beyond their intended or approved indications to treat complications of COVID-19 disease. Novartis plans to sponsor or co-sponsor multiple large clinical trials of its existing medicines as COVID-19 treatments, including Jakavi® (ruxolitinib), in collaboration with Incyte, and Ilaris® (canakinumab).

OTSUKA

Otsuka is committed to the fight against the COVID-19 pandemic. Through financial contributions and grass-roots efforts, the company is making a difference in local communities and supporting the patients it serves. The Sozosei Foundation, a charitable organization recently established by Otsuka America Pharmaceutical, Inc., has committed \$500,000 in aggregate donations to five local charities in the central New Jersey and Washington, D.C. areas to support those impacted by the COVID-19 pandemic. The charities selected focus on an array of critical services such as providing meals and housing services to at-risk community members including children and the elderly.

Otsuka employees have also mobilized to secure and deliver critical personal protective equipment (PPE) to local health organizations in greatest need. Otsuka has donated more than 3,000 pieces of PPE equipment, including 2,360 medical grade N95 respirator masks, to the New Jersey Office of Emergency Management and directly to frontline and hardest hit hospitals such as Holy Name Hospital in Teaneck, NJ. Otsuka employees also delivered more than 75 cases of bottled water to local EMTs including Princeton First Aid & Rescue Squad and the Rockville Volunteer Fire Department. The Company has also donated 94 iPads to charitable organizations who will distribute them to institutions in greatest need, so that families affected by COVID-19 can connect with their loved ones.

PFIZER

Earlier in the year, Pfizer identified compounds in its chemical libraries that have shown activity against other coronaviruses, including severe acute respiratory syndrome (SARS). That review led to identifying a lead compound and analogues that are potent inhibitors of the SARS-CoV-2

PFIZER

3C-like (3CL) protease, based on the results of initial screening assays. In addition, preliminary data suggest that the lead protease inhibitor also has antiviral activity against SARS-CoV-2. Pfizer will perform pre-clinical confirmatory studies, including further anti-viral profiling and assessment of the suitability of the lead molecule for IV administration clinically. In parallel, the company is investing in materials that will accelerate the start of a potential clinical study of the lead molecule to the third quarter of 2020, subject to positive completion of the pre-clinical confirmatory studies.

During this initial stage, the expectation is that 200 participants will be dosed with vaccine candidate BNT162 in Germany since dosing began on April 23, 2020. In the U.S., up to 360 trial participants will be dosed with the vaccine, since dosing began the first week of May, and may scale to more than 8,000 by its conclusion. The rapid advancement of this collaboration builds on the research and development collaboration into which Pfizer and BioNTech entered in 2018 to develop mRNA-based vaccines for prevention of influenza.

Furthermore, in the United States, the Pfizer Foundation has provided a \$500,000 grant to International Medical Corps. The funding will support the provision of urgently needed supplies to front-line health care workers, provide training, and deploy medical strike teams. Pfizer Inc has also donated select antibiotics to Direct Relief to manage complications related to COVID-19. The company and The Pfizer Foundation have also announced the commitment of \$40 million in medical and charitable cash grants to help combat the global health effects of the COVID-19 pandemic in the U.S. and around the world. The donation addresses the urgent needs of partners who are working to slow the spread of the virus within communities and strengthen vulnerable health care systems against future public health threats. Pfizer is also responding to patient and health care provider needs during this unprecedented time by donating additional critical medicines and vaccines in the U.S. and around the world.

SANOFI

Sanofi Pasteur, the vaccines global business unit of Sanofi, will leverage previous development work for a SARS vaccine which may unlock a fast path forward for developing a COVID-19 vaccine. Sanofi is collaborating with BARDA, expanding the company's long-standing partnership with the Authority. Sanofi will use its recombinant DNA platform to produce a 2019 novel coronavirus vaccine candidate. The recombinant technology produces an exact genetic match to proteins found on the surface of the virus. The DNA sequence encoding this antigen will be combined into the DNA of the baculovirus expression platform, the basis of Sanofi's licensed recombinant influenza product, and used to rapidly produce large quantities of the coronavirus antigen which will be formulated to stimulate the immune system to protect against the virus.

The company is also collaborating with and with Translate Bio, a clinical-stage messenger RNA (mRNA) therapeutics company, where Sanofi is combining its deep vaccine expertise and support with Translate Bio's messenger RNA platform to discover, design, and manufacture a number of SARS-CoV-2 vaccine candidates.

Additionally, Sanofi and GSK have signed a letter of intent to develop an adjuvanted vaccine for COVID-19, using innovative technology from both companies, to help address the ongoing pandemic. Sanofi will contribute its S-protein COVID-19 antigen, which is based on recombinant DNA technology. This technology has produced an exact genetic match to proteins found on the surface of the virus, and the DNA sequence encoding this antigen has been combined into the DNA of the baculovirus expression platform, the basis of Sanofi's licensed recombinant influenza product in the U.S. GSK will contribute its proven pandemic adjuvant technology. The use of an adjuvant can be of particular importance in a pandemic situation since it may reduce the amount of vaccine protein required per dose, allowing more vaccine doses to be produced and therefore contributing to protect more people.

SANOFI

Sanofi has signed an agreement with Luminostics to evaluate a collaboration a unique self-testing solution for COVID-19, using Luminostics' innovative technology. Luminostics would contribute its proprietary technology for consumer-diagnostics for COVID-19 testing while Sanofi would bring its clinical research testing experience and capabilities. The goal is to provide a smartphone-based solution that eliminates the current need for healthcare professional administration or laboratory.

Sanofi is working to maintain the supply of all of their medicines and vaccines through close collaboration with their suppliers throughout the world. Their global network of manufacturing plants is operational, and the diversity of our global sourcing helps ensure business continuity across all our product lines. At this time, Sanofi does not anticipate shortages for patients resulting from the COVID-19 situation.

Sanofi is also contributing towards those on the front lines. Sanofi China donated 1 million RMB to the Chinese Red Cross Foundation to purchase relevant equipment and supplies for the epidemic area, including protective suits, goggles, masks, gloves, and disinfection equipment. Sanofi Pasteur China donated virus testing devices (throat swabs) worth 500 thousand RMB to Hubei Provincial CDC - Center for Diseases Control and prevention. Sanofi has also contributed \$450,000 to humanitarian aid organizations who are working on the frontlines and with the free health clinics across the U.S., and to community organizations helping those in need.

In addition to donating to relief efforts in the communities where we live and work, Sanofi employees around the country have mobilized to volunteer their medical expertise during the COVID-19 pandemic. Any employee who is a licensed medical professional is able to support their community hospital, relief organization, local testing site and more all while maintaining their Sanofi pay and benefits.

SUNOVIAN

Sunovion Pharmaceuticals is committed to giving back in the communities where the Company's employees work and live around the world. As the COVID-19 situation evolved, Sunovion mobilized to contribute to community relief efforts and assist with medical supply donations to address increasing health care needs.

Support has been directed to first responders, health care workers and people and communities vulnerable to the physical and mental health impacts of COVID-19. Sunovion has provided a significant donation to the Center for Disaster Philanthropy (CDP) COVID-19 Response Fund. This fund supports nonprofit organizations responding to the pandemic among the most vulnerable populations, as well as preparedness, containment, response and recovery activities for those affected and for the responders.

In partnership with MassBio, Sunovion contributed to the Massachusetts Emergency Management Agency (MEMA) to bring donated medical supplies and resources to the State's health care institutions so that they can continue to test and treat patients with COVID-19. The Company donated cases of PPE including respirators, masks, safety goggles and gloves, as well as protective suits, gowns and shoe covers. In New Jersey, Sunovion donated safety masks to the Office of Emergency Management for distribution to the health care system. In Canada, Sunovion has joined forces with Innovative Medicines Canada to set up a COVID-19 fund to support the most urgent needs and communities across the country, beginning with a shipment of safety masks for front-line health care providers. Additionally, following a call from the government, a number of Sunovion's UK team members are serving as volunteers to support the community and the National Health Service (NHS).

SUNOVIAN

In the U.S., Sunovion has partnered with its food service vendor to provide food donations to the United Way of Tri-County and has provided financial support to the Greater Boston Food Bank and Community Foodbank of New Jersey, which have a key role in distributing food and grocery products to member agencies that serve people experiencing food insecurity throughout their respective communities. In the UK, Sunovion has delivered food donations to a food bank in London.

TAKEDA

Takeda and CSL Behring formed an alliance along with other global plasma leaders to develop a potential plasma-derived therapy for treating COVID-19. The alliance began with the investigational development of an unbranded anti-SARS-CoV-2 polyclonal hyperimmune immunoglobulin medicine with the potential to treat individuals with serious complications from COVID-19. The collaboration leverages leading-edge expertise and work that the companies already have underway. Experts from the alliance will begin collaborating across key aspects such as plasma collections, clinical trial development and manufacturing. Further companies and institutions may join the alliance as well.

Developing a hyperimmune requires plasma donation from many individuals who have fully recovered from COVID-19 and whose blood contains antibodies that can fight the novel coronavirus. Once collected, the “convalescent” plasma is transported to manufacturing facilities where it undergoes proprietary processing, including effective virus inactivation and removal processes, and then is purified into the product.

Takeda is also donating more than \$6.25 million dollars to organizations in the United States to help those impacted by the Coronavirus and to help enable organizations to continue helping the communities they serve.

**TEVA
PHARMACEUTICAL**

Teva has continuously worked since the early days of the COVID-19 pandemic to support efforts of governments and health services to curb the impact of the virus. Teva’s global manufacturing network has been tirelessly focused on securing and scaling production of both API and finished doses for potential treatments that may prove essential in treating the condition nearly everywhere Teva does business. Recently this effort included enabling tablets and API manufactured in our Goa, India plant to be retrieved in a timely way so to be able to expand access to the medicine globally. Teva is grateful to the Indian, US and Israeli governments for taking extraordinary measures to ensure this shipment will be distributed to those who need it. Teva will continue to work with governments and international organizations throughout the world to support emerging needs related to this crisis, while doing everything possible to also continue to supply our vast portfolio of medicines to other patients.

UCB

Patients are at the heart of everything UCB does, and the company is committed to helping those impacted by COVID-19 as well as leveraging scientific expertise and resources to play its part in the global response. UCB’s actions are based on three pillars:

- + **Contributing to basic research and treatment development** – UCB is working with Seattle Structural Genomics Center for Infectious Disease in the U.S., Diamond Light Source in the UK and The University of Oxford researching COVID-19 for treatment and vaccine development.
- + **Offering expertise to increase local testing capabilities where the company has lab facilities.**

- + **Supporting locally and globally through donations as well as direct assistance to patients and partners** – UCB produces and donates hydro-alcoholic solution, donates personal protective equipment to health care authorities and local hospitals and supports UCB's healthcare professionals who wish to volunteer their expertise in line with local government needs and guidance.

The biopharmaceutical industry has the capacity and expertise to find and scale solutions to prevent and treat infection of the coronavirus and we will continue to provide updates on the response to the outbreak, and our member companies' contributions, as the situation evolves.