

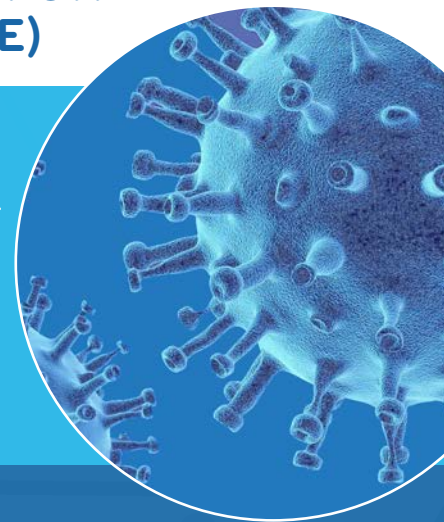
# COVID-19: WORKING TOGETHER ON A SOLUTION (UPDATE)

Updated March 25, 2020

The global outbreak of the novel coronavirus (COVID-19) is an issue of growing concern around the world. The innovative pharmaceutical industry is working around the clock to find solutions to treat those infected by the virus and to prevent it from spreading.

Our industry continues to step up in times of serious need, however, the development of new medicines and vaccines is a complex process—it takes thousands of volunteers, scientists, doctors and researchers—with no guarantees of success.

The following are but a few examples of how our member companies are engaged in combatting COVID-19.



**abbvie**

**ABBVIE** has announced plans to evaluate HIV medicine as COVID-19 treatment and has entered into partnerships with health authorities and institutions in various countries to investigate the efficacy and antiviral activity of the medication. AbbVie has also allied with industry partners and the Innovative Medicines Initiative to research and identify targeted medicines against COVID-19.

**AMGEN**

**AMGEN** and the Amgen Foundation announced on March 23 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 will also match donations made by Amgen staff around the globe who wish to contribute their own funds to the relief efforts.

**AstraZeneca**

**ASTRAZENECA**, in the global effort to support the fight against COVID-19, is donating nine million face masks to support healthcare workers around the world as they respond to the COVID-19 (novel coronavirus) global pandemic. AstraZeneca has partnered with the World Economic Forum's COVID Action Platform, created with the support of the World Health Organization, to identify countries in greatest need. In addition to these donations, AstraZeneca is accelerating the development of its diagnostic testing capabilities to scale-up screening and is also working in partnership with governments on existing screening programmes to supplement testing. AstraZeneca's Research and Development teams have also been working expeditiously to identify monoclonal antibodies to progress towards clinical trial evaluation as a treatment to prevent COVID-19.

**Bayer**

**BAYER** is donating medicines and additional financial aid worth a total of approximately 1.5-million (EUR) to support the population affected by the outbreak of the novel coronavirus in China. The donations will be made to the Chinese Red Cross, which is working together with the health authorities to coordinate the deployment of aid measures for the prevention, diagnosis, treatment and containment of COVID-19. Bayer has donated 3 million tablets of the malaria drug Resochin to the U.S. government for potential use to treat COVID-19. Resochin, made of chloroquine phosphate and an approved treatment for malaria, is being evaluated in China for its potential use against COVID-19, the disease caused by the fast-spreading coronavirus.

**Boehringer Ingelheim**

**BOEHRINGER INGELHEIM** is supporting the development of therapies against COVID-19. The company is collaborating with the German Center for Infectious Research and take part in a fast-track call from the European Union's Innovative Medicines Initiative to develop therapies and diagnostic tools for COVID-19. Their global research team is screening their entire molecule library with more than one million compounds to identify novel small molecules with activity against the virus. The same applies for already existing small molecule compounds from Boehringer Ingelheim's former antiviral research.

**EMD SERONO**

**EMD SERONO, CANADA** As part of the global effort to investigate potential therapeutics for COVID-19, EMD Serono, Canada through its parent company, Merck KGaA, Darmstadt, Germany, has 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. The trial is sponsored by INSERM and its launch has been announced by the French Health authorities on March 11. To date, Merck KGaA's interferon beta-1a (REBIF) is not approved by any regulatory authority for the treatment of COVID-19 or for use as an antiviral agent.

**gsk**

**GLAXOSMITHKLINE (GSK)** has been working with the Coalition for Epidemic Preparedness Innovations and announced a new collaboration aimed at developing a vaccine. The company will make its established pandemic vaccine adjuvant platform technology available to enhance this development. GSK has further collaborated with Clover Biopharmaceuticals, a China-based global biotech company, who has commercial scale bio-manufacturing capabilities to rapidly produce large-quantities of a potential vaccine for COVID-19.



# COVID-19: WORKING TOGETHER ON A SOLUTION (UPDATE)



**JOHNSON & JOHNSON (J&J)** has begun research into a vaccine, leveraging the same innovative technology used for the company's investigational Ebola vaccine. Janssen, the pharmaceutical arm of J&J, has donated medicines for use in laboratory-based investigations to support efforts in finding a solution against COVID-19. Janssen is now expanding its collaboration with the U.S. Department of Health and Human Services to accelerate their search for a potential COVID-19 vaccine.



**LILLY** entered into an agreement with AbCellera to co-develop antibody products for the treatment and prevention of COVID-19. The collaboration will leverage AbCellera's rapid pandemic response platform, developed under the DARPA Pandemic Prevention Platform (P3) Program, along with Lilly's global capabilities for rapid development, manufacturing and distribution of therapeutic antibodies.



**MEDICAGO** announced the production of a viable vaccine candidate for COVID-19 which is undergoing preclinical testing for safety and efficacy. Funding received from the Government of Canada's COVID-19 Response Fund for coronavirus research and the Government of Quebec, as announced on March 23, will allow Medicago to rapidly move forward on clinical trials to assess the safety and efficacy of the vaccine candidate and then quickly shift to scaling up production for pandemic response.



**MERCK** has established a team of scientists to assess internally available antiviral candidates and vaccine assets for potential to impact the COVID-19 and related viruses.



**NOVARTIS** announced its commitment to donate up to 130 million doses of generic hydroxychloroquine to support the global COVID-19 pandemic response. Hydroxychloroquine and a related drug, chloroquine, are currently under evaluation in clinical trials for the treatment of COVID-19. Novartis is supporting ongoing clinical trial efforts and will evaluate needs for additional clinical trials. The company is also exploring further scaling of capacity to increase supply and is committed to working with manufacturers around the world to meet global demand. Novartis will work with stakeholders including the World Health Organization to determine the best distribution of the medicine to ensure broad access to patients most in need of this medicine globally.



**PFIZER** and BioNTech to co-develop potential Covid-19 vaccine. The collaboration aims to accelerate development of BioNTech's potential first-in-class COVID-19 mRNA vaccine program, BNT162, which is expected to enter clinical testing by the end of April 2020. 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.



**ROCHE CANADA** has been selected as a participant in a Phase III clinical trial studying the safety and efficacy of one of Roche's portfolio medicines in hospitalized adult patients with severe COVID-19 pneumonia. In addition, Roche is collecting and compiling data from other, independently-led clinical trials that are taking place around the world. Roche is currently working with Health Canada, Public Health Agency of Canada and provincial public labs to align on a strategy for available COVID-19 testing solutions, including those provided by Roche, according to the needs of various jurisdictions. The company is diligently providing its solutions for COVID-19 testing to laboratories and is taking the necessary measures to help reduce the level of pandemic impact.



**SANOFI** has plans to announce a new COVID-19 initiative and is already sharing its expertise and data acquired from other outbreaks with the Coalition for Epidemic Preparedness Innovations, which is working with biotech businesses in developing a vaccine candidate for the virus. In Sanofi's partnership with Biomedical Advanced Research and Development Authority, they announced plans to leverage some of its previous development work for a SARS vaccine, hoping to unlock a fast path forward for developing a vaccine.



**TAKEDA** is developing an investigational Hyperimmune globulin (H-IG). H-IG has been found to be effective in the treatment of severe acute respiratory infections of viral etiology and may present a potential treatment option for high-risk COVID-19 patients, as well as the prevention of infection in healthcare workers at high risk of exposure to SARS-CoV-2. In addition, Takeda is exploring whether select marketed therapies and molecules in its drug library could be viable candidates for the effective treatment of COVID-19. These efforts are at an early stage but being given a high priority within the company.

**What does this mean? Governments, other life science organizations, and the biopharmaceutical industry are working together to develop an effective coronavirus vaccine.**

**Our industry remains dedicated to the discovery, development and delivery of life saving medicines and treatments.**

For more information, please visit: [World Health Organization](#) | [Government of Canada Outbreak Update](#)