

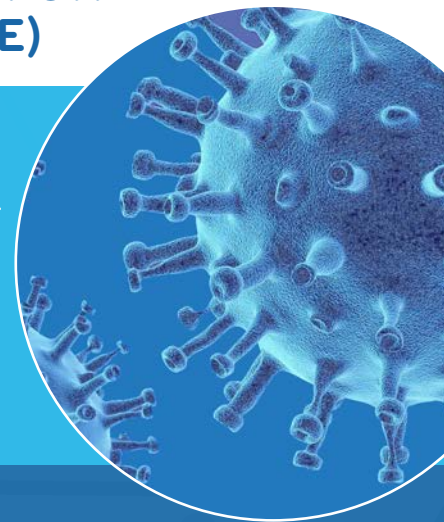
COVID-19: WORKING TOGETHER ON A SOLUTION (UPDATE)

Updated March 20, 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.

AstraZeneca ● **ASTRAZENECA** is engaging with international health authorities and governments and has provided science and technology expertise to the World Health Organization and the European Federation of Pharmaceutical Industries and Associations. The company has mobilized research efforts in discovering coronavirus-neutralizing antibodies as a treatment to prevent COVID-19 and is focused on progress into clinical trial evaluation.

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.

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.

Janssen ● **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 ● **LILLY** has entered into an agreement with AbCeller 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.



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medicago

MEDICAGO announced the production of a viable vaccine candidate for COVID-19 which is undergoing preclinical testing for safety and efficacy.



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 has announced a broad set of measures to support the global response to the COVID-19 pandemic. These measures include the creation of a global fund to support communities around the world impacted by the COVID-19 pandemic as well as the company's decision to join two key cross-industry R&D initiatives.



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 has a new and much faster test for diagnosing COVID-19. The test can be run in high volumes on fully automated equipment. The company is committed to delivering as many tests as possible and is going to the limits of production capacity.



SANOFI has plans to announce a new COVID-19 initiative within the next two weeks 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.



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

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

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