

Nano Science, Technology and Industry Scoreboard

## Johnson & Johnson Selects Its Lead COVID-19 Vaccine Candidate

2020-04-11 Johnson & Johnson and BARDA together commit more than \$1 billion to novel coronavirus vaccine research and development; company expects to initiate phase 1 human clinical studies of vaccine candidate at Itest by september 2020.

Johnson & Johnson (JNJ) today announced the selection of a lead COVID-19 vaccine candidate from constructs it has been working on since January 2020; the significant expansion of the existing partnership between the Janssen Pharmaceutical Companies of Johnson & Johnson and the Biomedical Advanced Research and Development Authority (BARDA); and the rapid scaling of the Company's manufacturing capacity with the goal of providing global supply of more than one billion doses of a vaccine. The Company expects to initiate human clinical studies of its lead vaccine candidate at the latest by September 2020 and anticipates the first batches of a COVID-19 vaccine could be available for emergency use authorization in early 2021, a substantially accelerated timeframe in comparison to the typical vaccine development process.

Through a landmark new partnership, BARDA, which is part of the Office of the Assistant Secretary for Preparedness and Response (ASPR) at 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. Johnson & Johnson will use its validated vaccine platform and is allocating resources, including personnel and infrastructure globally, as needed, to focus on these efforts. Separately, BARDA and the Company have provided additional funding that will enable expansion of their ongoing work to identify potential antiviral treatments against the novel coronavirus.

As part of its commitment, Johnson & Johnson is also expanding the Company's global manufacturing capacity, including through the establishment of new U.S. vaccine manufacturing capabilities and scaling up capacity in other countries. The additional capacity will assist in the rapid production of a vaccine and will enable the supply of more than one billion doses of a safe and effective vaccine globally. The Company plans to begin production at risk imminently and is committed to bringing an affordable vaccine to the public on a notfor-profit basis for emergency pandemic use.

## Nanotechnology in Battle Against Coronavirus ...

Alex Gorsky, Chairman and Chief Executive Officer, Johnson & Johnson, said, "The world is facing an urgent public health crisis and we are committed to doing our part to make a COVID-19 vaccine available and affordable globally as quickly as possible. As the world's largest healthcare company, we feel a deep responsibility to improve the health of people around the world every day. Johnson & Johnson is well positioned through our combination of scientific expertise, operational scale and financial strength to bring our resources in collaboration with others to accelerate the fight against this pandemic."

Paul Stoffels, M.D., Vice Chairman of the Executive Committee and Chief Scientific Officer, Johnson & Johnson, said, "We greatly value the U.S. government's confidence and support for our R&D efforts. Johnson & Johnson's global team of experts has ramped up our research and development processes to unprecedented levels, and our teams are working tirelessly alongside BARDA, scientific partners, and global health authorities. We are very pleased to have identified a lead vaccine candidate from the constructs we have been working on since January. We are moving on an accelerated timeline toward Phase 1 human clinical trials at the latest by September 2020 and, supported by the global production capability that we are scaling up in parallel to this testing, we expect a vaccine could be ready for emergency use in early 2021."

## Johnson & Johnson's Lead COVID-19 Vaccine Candidate

Johnson & Johnson began efforts in January 2020, as soon as the novel coronavirus (COVID-19) sequence became available, to research potential vaccine candidates. Research teams at Janssen, in collaboration with BethIsrael Deaconess Medical Center (<u>BIDMC</u>), part of Harvard Medical School, constructed and tested multiple vaccine candidates using the Janssen AdVac® technology. Through collaborations with scientists at multiple academic institutions, the vaccine constructs were then tested to identify those with the most promise in producing an immune response in preclinical testing.

Based on this work, Johnson & Johnson has identified a lead COVID-19 vaccine candidate (with two back-ups), which will progress into the first manufacturing steps. Under an accelerated timeline, the Company is aiming to initiate a Phase 1 clinical study in September 2020, with clinical data on safety and efficacy expected to be available by the end of the year. This could allow vaccine availability for emergency use in early 2021. For comparison, the typical vaccine development process involves a number of different research stages, spanning 5 to 7 years, before a candidate is even considered for approval.

For more than 20 years, Johnson & Johnson has invested billions of dollars in antivirals and vaccine capabilities. The COVID-19 vaccine program is leveraging Janssen's proven AdVac® and PER.C6® technologies that provide the ability to rapidly develop new vaccine candidates and upscale production of the optimal vaccine candidate. The same technology was used to develop and manufacture the Company's Ebola vaccine and construct our Zika, RSV, and HIV vaccine candidates which are in Phase 2 or Phase 3 clinical development stages.

## **Expanded Antiviral Research**

In addition to the vaccine development efforts, BARDA and Johnson & Johnson have also expanded their partnership to accelerate Janssen's ongoing work in screening compound libraries, including compounds from other pharmaceutical companies. The Company's aim is to identify potential treatments against the novel coronavirus. Johnson & Johnson and BARDA are both providing funding as part of this partnership. These antiviral screening efforts are being conducted in partnership with the Rega Institute for Medical Research (KU Leuven/University of Leuven), in <u>Belgium</u>.

As announced in February 2020, the Company and BARDA have been working closely with global partners to screen Janssen's library of antiviral molecules to accelerate the discovery of potential COVID-19 treatments.

COVID-19 belongs to a group of viruses called coronaviruses that attack the respiratory system. There is currently no approved vaccine, treatment or cure for COVID-19.

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Read the original article on JNJNews.