Grand Plans for Potential COVID-19 Vaccine Production

UK-based drugmaker AstraZeneca expands its plans with regard to the COVID-19 vaccine, doubling its manufacturing capacity to 2 billion doses and securing deals with a number of partners.

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The vaccine, AZD1222 (previously known as ChAdOx1-nCoV-19), was developed by the University of Oxford and licensed to AstraZeneca. According to the World Health Organization’s Draft landscape of COVID-19 candidate vaccines, it is the most advance among the 10 candidate vaccines in clinical evaluation stage (phase 2b/3 as of 2 June). The vaccine is a weakened version of a common cold virus (adenovirus) that causes an immune response in humans.

AstraZeneca said last week it was targeting 2 billion doses of AZD 1222. In May, the manufacturer pledged to ship 100 million doses to the UK and 300 million to the U.S.

With the support from the WHO and Bill Gates, AstraZeneca has also struck two deals to guarantee early supply to lower income countries. The counterparties are public-private partnerships aimed at developing and distributing vaccines, namely the Coalition for Epidemic Preparedness and Innovations (CEPI) and Gavi, the Vaccine Alliance. They will spend $750 million (€664 million) to manufacture 300 million doses of the vaccine and distribute those by the end of the year.

The agreement with CEPI and Gavi is the first commitment through the Access to COVID-19 Tools (ACT) Accelerator led by the Bill & Melinda Gates Foundation and the WHO and aimed at ensuring the fair allocation and distribution of the vaccine across the world.

Another deal concerns SII (previously known as Serum Institute of India), the world’s largest manufacturer of vaccines by volume, which under the licensing agreement is to supply 400 million doses before the end of 2020 and one billion doses in total. Of those, an unspecified amount will be used in India, while Gavi will distribute the rest.

That leaves AstraZeneca with 300 million doses in planned production capacity yet to be allocated.

In May, AstraZeneca partnered with Oxford Biomedica for its experimental COVID-19 vaccine. On 8 June, Oxford Biomedica signed a new five-year manufacturing agreement with the Vaccines Manufacturing and Innovation Centre (VMIC), a group backed by the UK government, to help it scale up production of AZD 1222 and other vaccines.

Immunity to the new coronavirus is yet to be proved, but production is starting for the vaccine to be ready for distribution once regulatory approval is given. Pascal Soriot’s, AstraZeneca’s CEO, projection is that trial results could be available in August. “You can’t spend your time wondering is it going to work. We have to commit. That’s what we do in the industry, we bet on something. We are completely committed to the vaccine programme to deliver,” Soriot said.

Aside from AZD 1222, the leaders in clinical trials according to WHO are candidates from CanSino Biologics (China) and the Beijing Institute of Biotechnology, and US-based Moderna and the National Institute of Allergies and Infectious Diseases (NIAID).

Earlier Dr Anthony Fauci, director of the National Institutes of Allergy and Infectious Diseases at NIH, said the vaccine could be available by December or January. However, Merck CEO Kenneth Frazier in an interview called the targets of 12-18 months “very aggressive” in the meantime, Bloomberg has reported that AstraZeneca has informally approached a rival, Gilead Sciences Inc. about a potential merger.
which would be the biggest healthcare deal ever. No terms for the transaction have been outlined, however, and neither AstraZeneca nor Gilead has confirmed this information.

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