

# ChAdOx1 Vaccine

July 22, 2020

The vaccine, called ChAdOx1 nCoV-19, is being developed at unprecedented speed. Developed by University of Oxford, it appears to be safe and triggers an immune response.

## ChAdOx1 nCov-19

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged as a zoonotic virus late in 2019 and is the causative agent of COVID-19. No vaccines have been approved for prevention of COVID-19. There are currently **more than 137 candidates undergoing preclinical development and 23 in early clinical development**, according to WHO.

An ideal vaccine against SARS-CoV-2 would be **effective after one or two vaccinations; would protect target populations** such as older adults and those with comorbidities, including immunocompromised individuals; would **confer protection for a minimum of 6 months; and would reduce onward transmission** of the virus to contacts.

The recent trial was the first time that the vaccine had been given to humans: 543 healthy adults aged 18-55 were vaccinated with a single dose of ChAdOx1 nCoV-19. A further 534 people were given a control vaccine that gives similar minor reactions, including injection site redness and mild pain. Volunteers are having their immune response (both antibodies and T cell levels) monitored for at least 12 months, and will also be observed to see whether or not they develop COVID-19.

The preliminary data from the trial clearly demonstrates that the **vaccine induces an antibody response within 28 days**. This **response is in a similar range to that in individuals who have recovered from COVID-19**, providing encouragement that the vaccine will be able to protect the majority of people against infection.

Ten volunteers were also given a second **“booster” dose** of the vaccine. This **increased the antibody response** to even higher levels, and 100% of blood samples from this group showed **neutralising activity against COVID-19 infection** in a laboratory setting. The vaccine **also induced T cells** that specifically recognise SARS-CoV-2, the virus that causes COVID-19. Importantly, the vaccine also demonstrates an acceptable safety profile, with no vaccine-induced severe adverse events – that is, no major side-effects.