

AstraZeneca

(AZD1222)

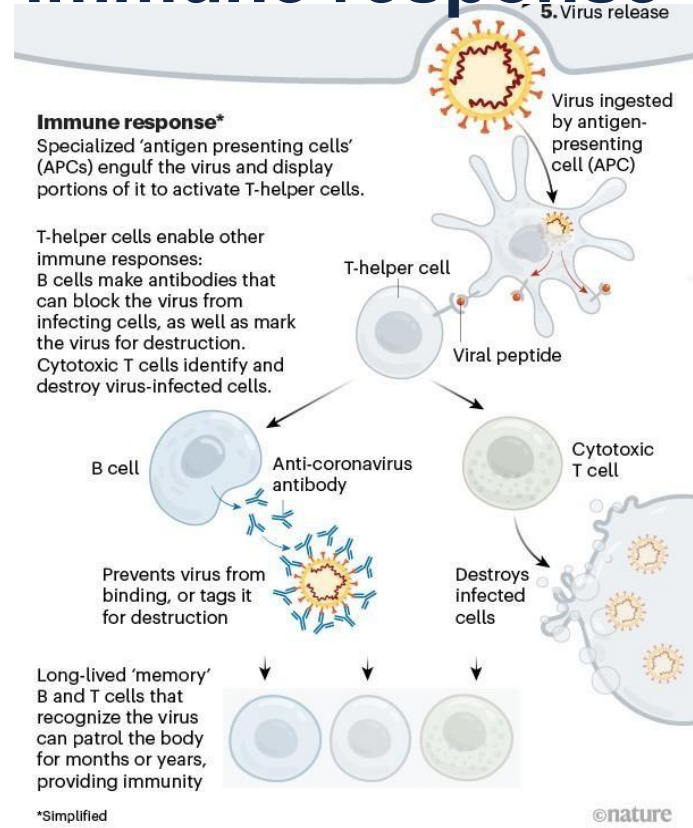
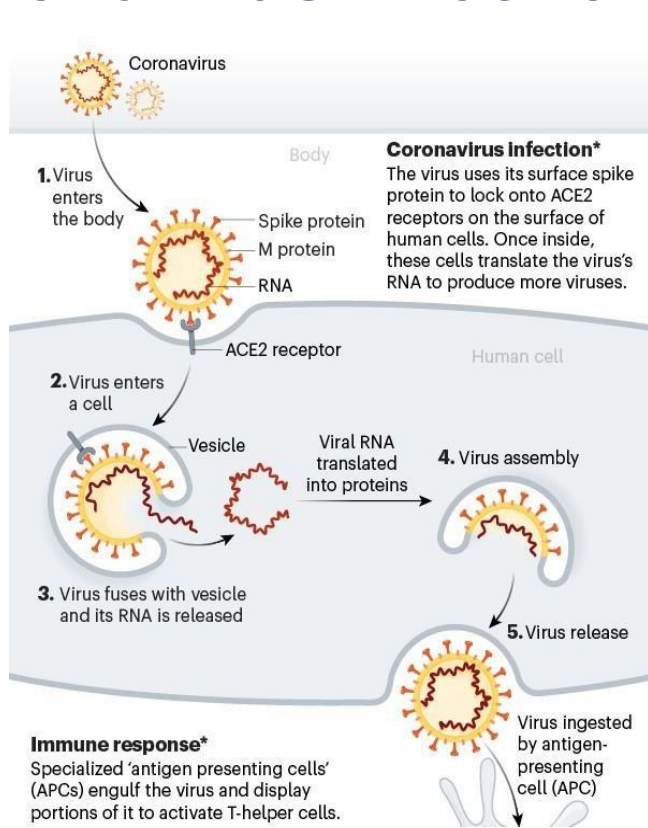
Introduction of AZD1222

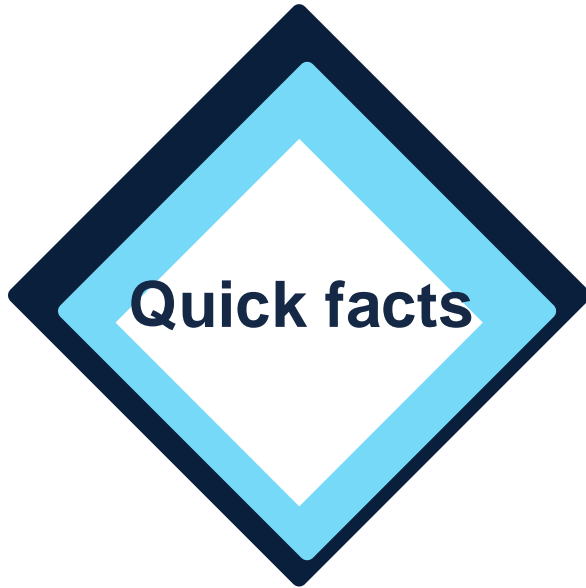
AstraZeneca known as AZD1222 was co-invented by the University of Oxford and its spin-out company.

AZD1222 uses a replication-deficient chimpanzee viral vector based on a weakened version of a common cold virus (adenovirus) that causes infections in chimpanzees and contains the genetic material of the SARS-CoV-2 virus spike protein.

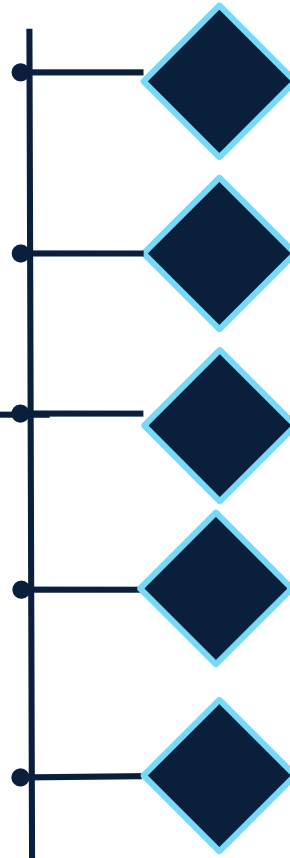


Coronavirus infection and immune response





Quick facts



Vaccine Platform
Adenovirus (**DNA virus**)

More specifically Adenovirus
isolated from chimpanzee
faecal

Other competitors have
Human Isolated Adenovirus
Platform.

Abbreviation stands Ch –
Chimpanzee , Ad –
Adenovirus Ox- Oxford .

Chimpanzee based Adeno
vector is used to cut short
transient Anti vector
immunity

Quick facts for ChAdOx- 1 vaccine platform

Adenoviruses are **common viruses** that typically **cause mild cold- or flu- like illness**. Adenoviruses can cause illness in people of all ages any time of year.

Adenoviruses as a vector or vehicle has been under study **since 1990**.

Chimpanzee Adenoviruses ChAdOx-1 is patented by **Vaccitech a clinical stage company**

ChAdOx-1 platform **has been used in MERS, SARS, Malaria, TB, Influenza, Chikungunya** etc. and found to be safe and induce **CD8 & CD4 immune response**.

Live attenuated vaccine weakened virus

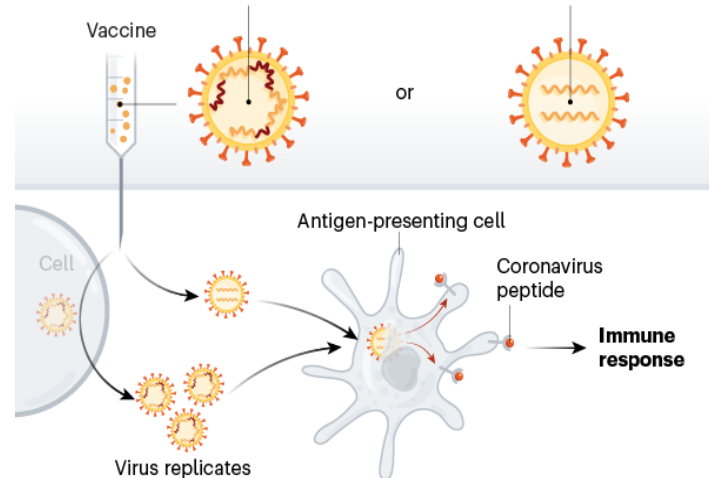
- Proper optimization to become **more immunogenic & less pathogenic.**
- A new technology, **represents whole virus**
- Test for attenuation and immunogenic dose will be the key.
- Do Not require Adjuvants

Weakened virus

A virus is conventionally weakened for a vaccine by being passed through animal or human cells until it picks up mutations that make it less able to cause disease. Codagenix in Farmingdale, New York, is working with the Serum Institute of India, a vaccine manufacturer in Pune, to weaken SARS-CoV-2 by altering its genetic code so that viral proteins are produced less efficiently.

Inactivated virus

In these vaccines, the virus is rendered uninfected using chemicals, such as formaldehyde, or heat. Making them, however, requires starting with large quantities of infectious virus.



Added value of this study



The results of the first clinical study of ChAdOx1 nCoV-19 (AZD1222). The vaccine was safe and tolerated, with reduced reactogenicity when paracetamol was used prophylactically for the first 24 h after vaccination. Reactogenicity was reduced after a second dose. Humoral responses to SARS-CoV-2 spike protein peaked by day 28 post prime and cellular responses were induced in all participants by day 14.

Neutralising antibodies were induced in all participants after a second vaccine dose. After two doses, potent cellular and humoral immunogenicity was present in all participants studied.

Implications of all the available evidence

A vaccine against SARS-CoV-2 could be used to prevent infection, disease, and death in the global population, with high-risk populations such as hospital workers and older adults (eg, ≥ 65 years of age) prioritized to receive vaccination.





Thank You