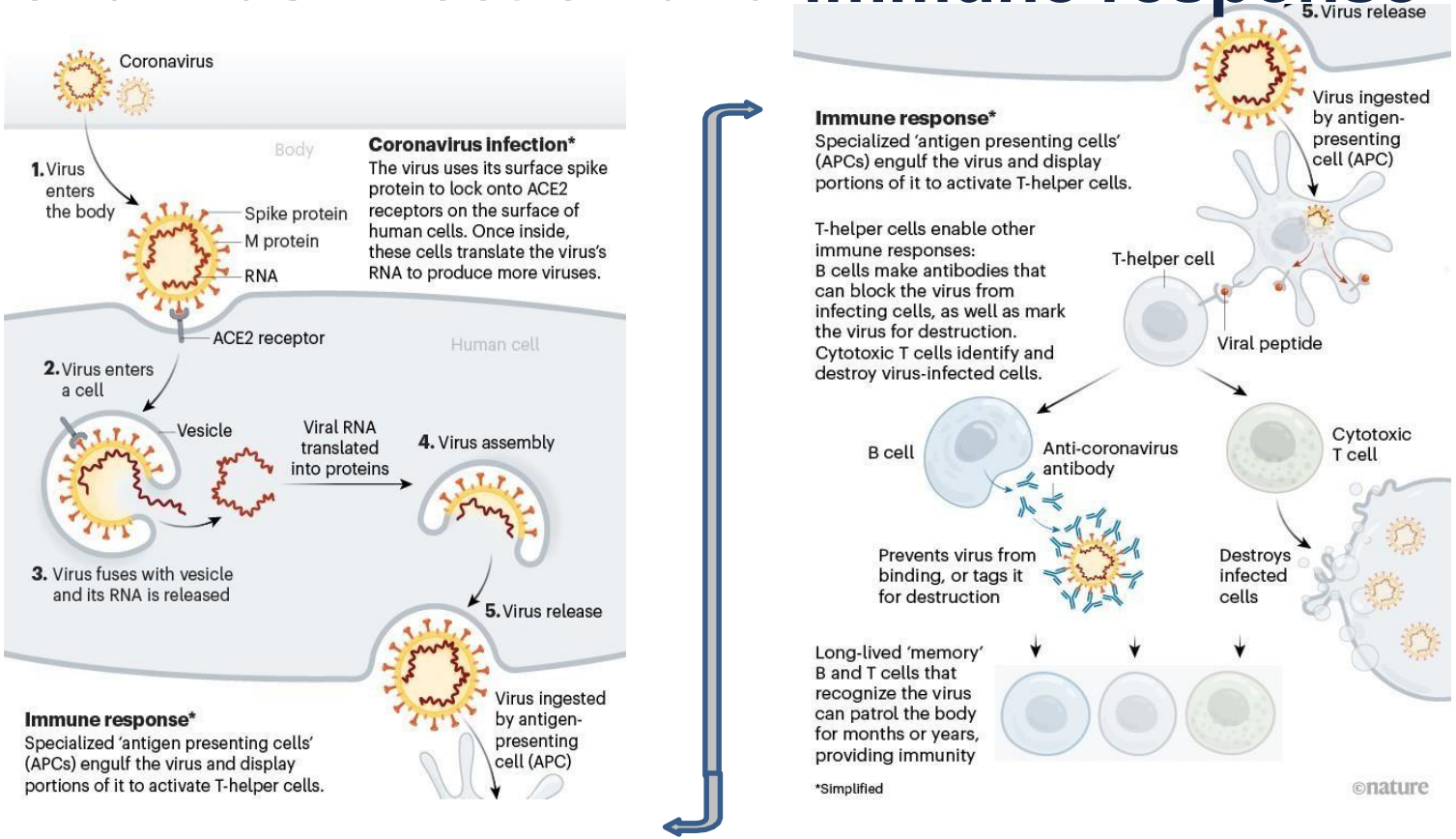
AstraZeneca (AZD1222)

Introduction of AZD1222

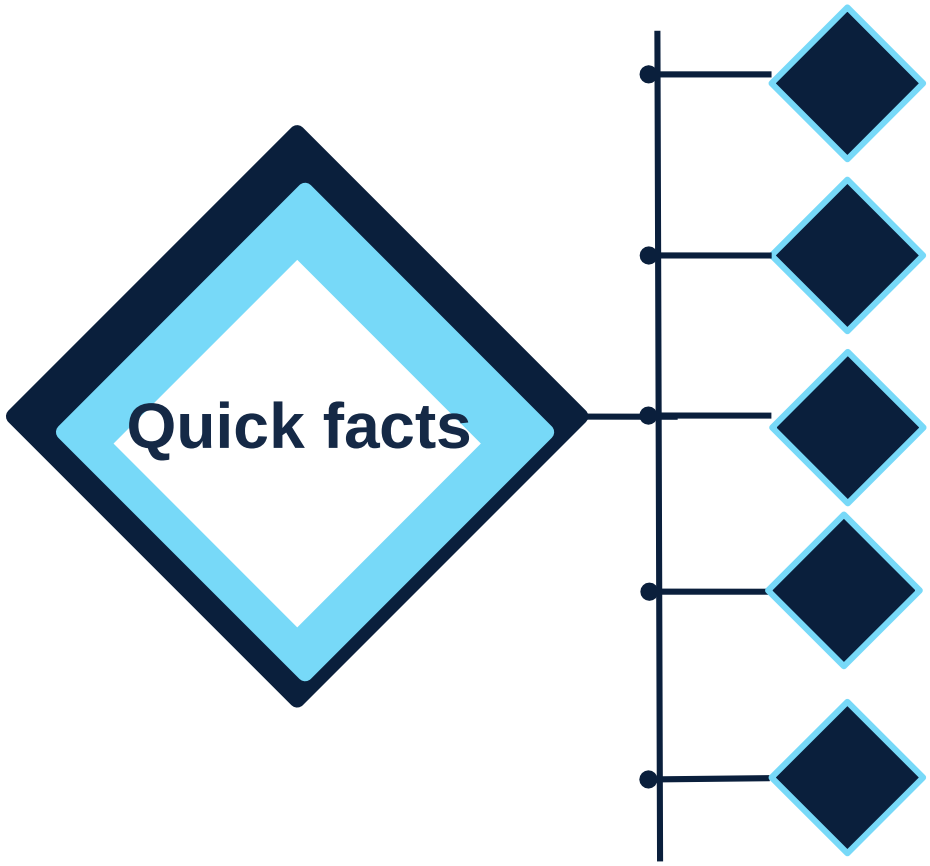
AstraZeneca known as AZD1222 was co-invented by the University of Oxford and its spin-out company.

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.

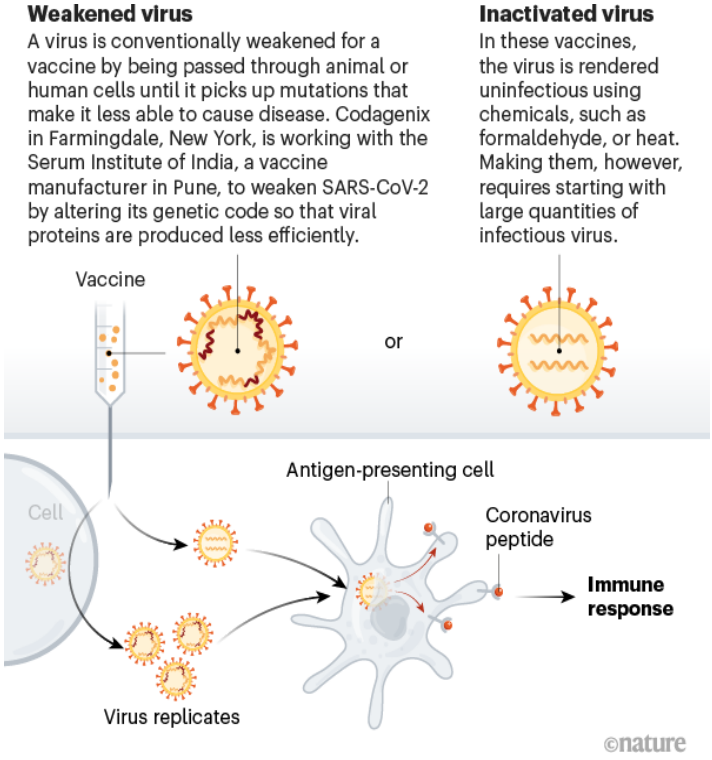
Adenoviruses as a vector or vehicle has been under study **since 1990.**

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



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