

Vaccine Development: Finding A Vaccine for COVID-19 and Future Pandemics

Glossary

Adjuvants – pharmacological or immunological agent that improves the immune response of a vaccine.

AE – Adverse Event

Antigen – a molecule capable of causing the immune system to produce antibodies against it.

Antigenic drift – the accumulation of a series of minor genetic mutations.

Antigenic shift – major genetic mutations which occur when two or more different strains of virus combine to form a new subtype, containing a mixture of the surface antigens.

Asymptomatic – producing or showing no symptoms.

B-cell – a type of white blood cell that produces and secretes antibodies. Unlike T-cells, B-cells don't kill viruses themselves.

CHIM – Controlled Human Infection Model

Cold chain – a series of actions and equipment applied to maintain a product within a specific low-temperature range.

Dengue – a viral infection spread by mosquitoes.

Double blinded – a study where both the participants and study staff do not know who has received the placebo and vaccine.

Endemic – an infection regularly found among particular people or in a certain area.

Epidemic - an outbreak that may affect many millions of individuals across the world or in a single continent.

First-in-Man Clinical Trial – a type of study where a device for a specific indication is evaluated for the first time in human subjects.

Inactivated vaccine – a vaccine made from virus which has been treated with heat or chemicals, so the virus has no infectious potential but still stimulates an immune response.

Live attenuated vaccine – a vaccine made from a whole live virus which has been modified to make it less infectious, while still stimulating an immune response.

Meningitis belt – a region in sub-Saharan Africa where there is a high incidence of meningitis and outbreaks are regularly reported.

MHRA - Medicines and Healthcare products Regulatory Agency, a UK surveillance system encouraging people to report any side effects to medicines or vaccines.

Morbidity – the condition of suffering from a disease or medical condition

Mortality – the state of being subject to death.

Narcolepsy - a chronic sleep disorder characterized by overwhelming daytime drowsiness and sudden attacks of sleep.

Outbreak - a sudden increase in an infection in time and place, usually a small and localised group.

Pandemic - a near-global outbreak: where multiple countries around a world are affected and the numbers of those infected is increasing or the incidence is unstable.

RCT – Randomised Control Trial

Recombinant protein vaccine/subunit vaccine/virus-like particles – a vaccine which involves synthetic production of vaccine antigens.

Reverse Vaccinology – an improvement on vaccinology that uses bioinformatics, pioneered by Professor Rino Rappuoli.

RNA/DNA vaccine – a vaccine using RNA or DNA, the genetic material uses the human cell's machinery to produce a recognised protein, producing an immune response.

Spike protein – the main antigen that is being used for the majority of coronavirus vaccines.

T-cell – T-cells are a type of white blood cell that work with macrophages.

VAERD – Vaccine Associated Enhance Respiratory Disease

VAERS – Vaccine Adverse Event Reporting System (VAERS), a US surveillance programme aiming to detect possible safety issues with vaccines.

Viral vectored vaccine – a vaccine which uses genetic material from the infectious agent which has been inserted into an unrelated virus which acts as a carrier.

WHO – World Health Organisation

