How do COVID-19 vaccines work?

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Vaccines work by preparing a person’s immune system (the body’s natural defences) to recognise and defend itself against a specific disease.

BUILDING IMMUNITY

Most research on COVID-19 vaccines involves generating responses to all or part of a protein that is unique to the virus that causes COVID-19. When a person receives the vaccine, it will trigger an immune response.

Most COVID-19 vaccines require two doses to build immunity. If the person is infected by the virus later on, the immune system recognises the virus. The system is then prepared to attack the virus.

HOW DO THE VACCINES BOUGHT BY THE EUROPEAN COMMISSION WORK?

NUCLEIC ACID VACCINES (MRNA)
BIONTECH/PFIZER | MODERNA | CUREVAC

This type of vaccine contains part of the ‘instructions’ from the virus that causes COVID-19. This allows the body’s own cells to make a protein that is unique to the virus.

The person’s immune system recognises that this unique protein should not be in the body and responds by producing natural defences against infection by COVID-19.
Protein-Based Vaccines
SANOFI/GSK

This type of vaccine contains fragments of a protein that is unique to the virus.

These are enough for the person’s immune system to recognise that the unique protein should not be in the body and to respond by producing natural defences against infection by COVID-19.

Viral Vector Vaccines
ASTRAZENECA | JOHNSON & JOHNSON

This type of vaccine uses a different, harmless virus to deliver the ‘instructions’ from the virus that causes COVID-19.

This allows the body’s own cells to make the protein unique to the COVID-19 virus.

The person’s immune system recognises that this unique protein should not be in the body and responds by producing natural defences against infection by COVID-19.

IF THE VACCINATED PERSON IS LATER EXPOSED TO THE COVID-19 VIRUS, THEIR NATURAL DEFENCES ARE ABLE TO RECOGNISE THE PROTEIN IN COVID-19. THE BODY’S DEFENCES ARE READY TO KILL THE VIRUS, AND TO PREVENT IT FROM ENTERING CELLS OR SPREADING FURTHER.

MORE INFORMATION ON COVID-19 VACCINATION

For more information about the vaccination programme in your country, see the ECDC vaccine scheduler and visit the official websites on vaccination of the countries of the European Union and the European Economic Area.

https://vaccination-info.eu/en
https://vaccine-schedule.ecdc.europa.eu/
https://vaccination-info.eu/trusted-information-sources

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