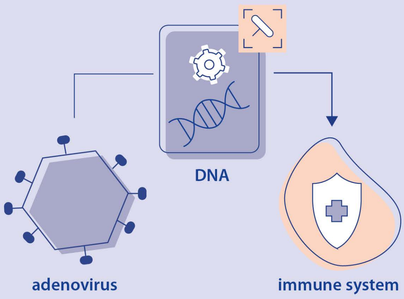
Viral vector vaccines against COVID-19: how they work

What is a viral vector?

Viral vector vaccines use a version of a mild virus to safely deliver **instructions** in the form of genetic code to our body cells.

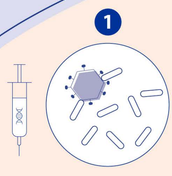


These instructions enable your body to produce a harmless piece of the coronavirus, the **'spike' protein**.

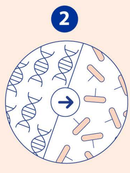
This type of vaccine makes your immune system familiar with the spike protein, so it can kill the coronavirus off in the event of infection and **prevent the disease.**

Viral vectors used in vaccines
do not affect or **interact with your DNA**

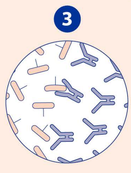
What happens in your body when you get a viral vector vaccine



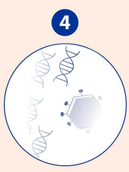
1. after the injection, the **adenovirus** carrying the instructions for creating spike proteins **enters your cells**



2. your body **creates spike proteins**

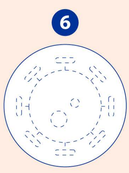


3. your immune system detects the foreign proteins and produces **antibodies** and **immune cells** to attack them



4. your body **gets rid of** the **adenovirus** and the **genetic information** quickly

5. if you are later infected with coronavirus, your immune system will **detect** the spike proteins and **destroy** the virus



6. you **won't get sick**

An important advantage

The tough protein coat of the adenovirus helps protect the DNA genetic instructions inside.

As a result, viral vector vaccines don't have to stay frozen at ultralow temperatures and **can last a few months** when kept at **normal fridge temperature** (2-8°C).

Council of the European Union
General Secretariat