COVID-19 Vaccines - Frequently Asked Questions
HOW VACCINES WORK

How do vaccines work in general?

Vaccines work by preparing your body's natural defenses to recognize and fight off germs that can make you sick.

- Some vaccines have dead or weakened versions of the germ.
- Others have substances made to look like part of the germ.
- The currently available COVID-19 vaccines teach the body to make proteins that look like part of the virus that causes COVID-19. They do not have any form of the COVID-19 virus, live, weakened, or dead. (See the question "*How do the COVID-19 vaccines work?"* below for more information).

When you get any vaccine, your immune system responds by:

- Making antibodies. These are proteins produced naturally by the immune system to fight disease.
- Preparing your immune cells to respond to future infection.
- Remembering the disease and how to fight it. If you are exposed to the germ after getting the vaccine, your immune system can quickly destroy it before you become sick.

This is what makes vaccines so effective. **Instead of treating a disease after it happens, vaccines can prevent us from getting sick in the first place.**

How do the COVID-19 vaccines work?

All 3 COVID-19 vaccines work by teaching our immune cells how to make copycat spike proteins (the crown-like spikes on the surface of the COVID-19 virus). Making the spike protein does not harm our cells.

- Our immune system sees the spike protein and knows that it doesn't belong there.
- Our bodies react by building an immune response. It makes antibodies that can act against the COVID-19 virus's spike protein and it prepares immune cells. This will protect us if we are exposed to the virus in the future.

The COVID-19 vaccines differ in how they teach our cells to make the spike protein.

- The vaccines made by Pfizer and Moderna are called mRNA vaccines. Messenger RNA (mRNA) is genetic material that tells our bodies how to make proteins. The mRNA in the vaccine is wrapped in oily bubbles (known as lipid nanoparticles). When the mRNA enters our cells, it teaches them how to make copies of the spike protein. The mRNA does not enter the cell nucleus and does not interact with DNA in any way.
- The vaccine made by J&J/Janssen is called a viral vector vaccine. The vector (or vehicle) uses a harmless virus to carry the genetic material to our cells. Our cells read the genetic material and make mRNA, and this mRNA teaches our cells to make the spike protein. The viral vector is a harmless version of a common cold virus. It can't replicate inside our cells or cause illness and it cannot change our DNA in any way.

Where can I get more information?

- To print or view this FAQ or FAQs on other COVID-19 vaccine topics, scan the QR code or visit COVID-19 vaccine FAQs.
- VaccinateLACounty.com – including COVID-19 Vaccine Schedules with graphics to show when each dose is due and information on How to Get Vaccinated.
- Understanding How COVID-19 Vaccines Work CDC website.
- Ask your doctor if you have questions.