



# ABOUT THE mRNA VACCINE

## OVERVIEW

### Our commitment

The COVID vaccine is messenger – RNA (mRNA) vaccine. Once injected, it causes your body to make copies of the “spikes” of the COVID virus. These spikes are made of protein and are a very small part of the surface of the COVID virus, but not the whole virus. A small dose is enough to turn up your body’s immune system which protects you against getting COVID disease if you are exposed to someone with the virus in the future.

- Like all vaccines, COVID-19 mRNA vaccines have been tested for safety before being authorized for use in the United States.
- mRNA technology is new, but not unknown. They have been studied for more than a decade.
- mRNA vaccines do not contain a live virus and do not carry a risk of causing disease in the vaccinated person.
- mRNA from the vaccine never enters the nucleus of the cell and does not affect or interact with a person’s DNA.

## HOW IT WORKS

mRNA can most easily be described as instructions that tell the cell how to make a piece of the “spike protein” that is unique to SARS-CoV-2.

Since only part of the protein is made, it does not do any harm to the person vaccinated but it is antigenic – meaning it is an antigen and fights the virus.

After the piece of the spike protein is made, the cell breaks down the mRNA strands and disposes of them using enzymes in the cell. It is important to note that the mRNA strand never enters the cell’s nucleus or affects genetic material. This information helps counter misinformation about how mRNA vaccines alter or modify someone’s genetic makeup.

Once displayed on the cell surface, the protein or antigen causes the immune system to begin producing antibodies and activating T-cells to fight off what it thinks is an infection. These antibodies are specific to the SARS-CoV-2 virus, which means the immune system is primed to protect against future infection.

## SAFETY

**COVID-19 mRNA vaccines are going through the same rigorous safety assessment as all vaccines before they are authorized or approved for use in the United States by the Food and Drug Administration.** This includes large clinical trials and data review by a safety monitoring board.

Often patients are concerned about live vaccines. mRNA vaccines are not live vaccines and do not use an infectious element, **so they carry no risk of causing disease in the person vaccinated.**

(CDC <https://www.cdc.gov/vaccines/covid-19/hcp/mrna-vaccine-basics.html>)