

RNA VACCINE

How does the covid vaccine work?

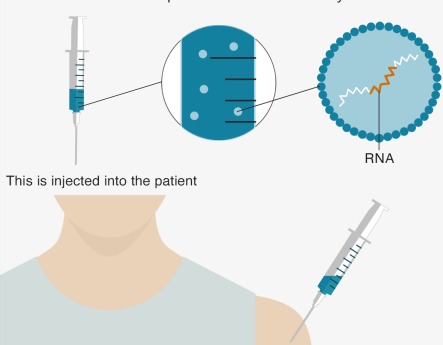
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HOW DOES IT WORK?

Benefits from the process that helps our body make proteins

- An RNA vaccine includes an mRNA strand that codes for the antigen of the disease
- This mRNA strand is made from a DNA strand of the virus, by coding antigens from the infectious strand
- When the mRNA of the vaccine is inside the body, cells use its genetic information to produce an antigen that is displayed on the cell surface and recognized by the immune system
- T-cells are in charge of memorizing the antigens of the virus so the body can respond once it enters the body
- This creates immunity for a specific disease, in this case for COVID-19

Scientists take part of the virus genetic code that tells cells what to build and coat it in a lipid so it can enter the body's cells



TRANSLATION

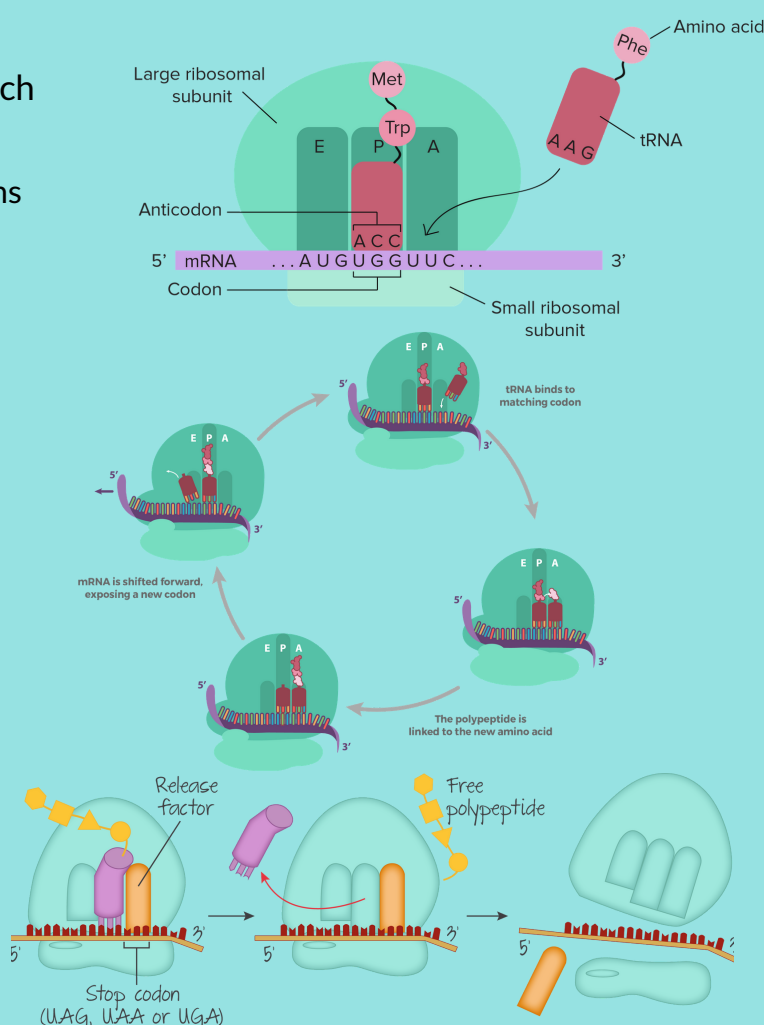
The way the RNA vaccine works is similar to the process of translation, where our cells transform mRNA into proteins

1. **Initiation**-mRNA* arrives to the ribosome, which recognizes the virus' protein

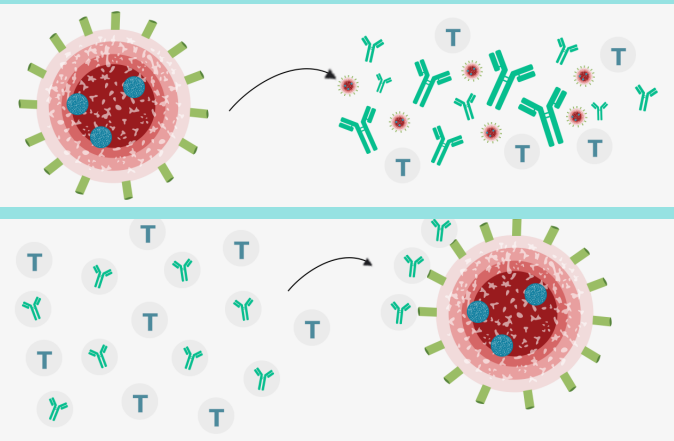
*mRNA was made like a template for the viruses proteins

2. **Elongation**- amino acids are brought to the ribosome by tRNAs and linked together to form the protein with the same information as the virus.

3. **Termination**- the finished protein is a viral protein of the virus which is released and recognized by the cells of the immune system (T-cells and B-cells).



HOW DOES THE BODY REACT?

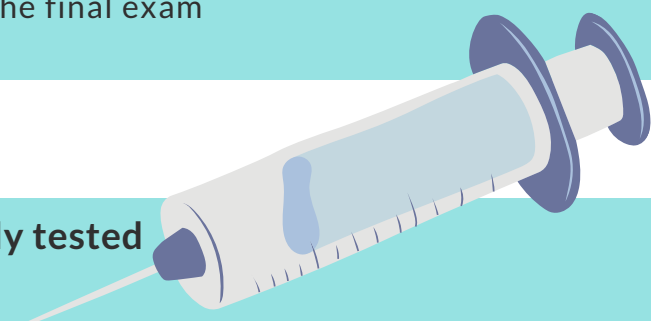


- Viral proteins create a response from the immune system, leading to the production of antibodies to fight it.
- These antibodies, stored in memory t-cells, are already "trained" to fight in case the virus enters the body, keeping it from evolving into a disease
- Think of the vaccine like a prep test that makes your body ease the final exam

IS IT SAFE?

Yes! Vaccination for SARS-COV-2 has been rigorously tested

- All vaccines, including this one are rigorously tested.
- Vaccines have to pass many phases of testing, to be used.
- Also, after being used, scientists keep track of them to check for side effects or signs to see if the vaccine is harmful.
- For example, only one of Pfizers early tests included 43 548 individuals from 6 different countries.
- Additional to that, mRNA vaccines can be considered some of the safest out there, since they dont involve the direct introduction of a live virus in the body.



Do you want to return to life the way we used to know it and be able to see and be near your loved ones again? then... **GET VACCINATED!**

The vaccine is completely harmless, safe and the only way we can fight and end COVID-19, the disease that continues to take many lives everyday, affecting many people and countries worldwide

Lets get vaccinated! Lets produce a real change and help fight the coronavirus, the decision is yours, but whether you decide to get the shot or not, will impact full communities



Resources:
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