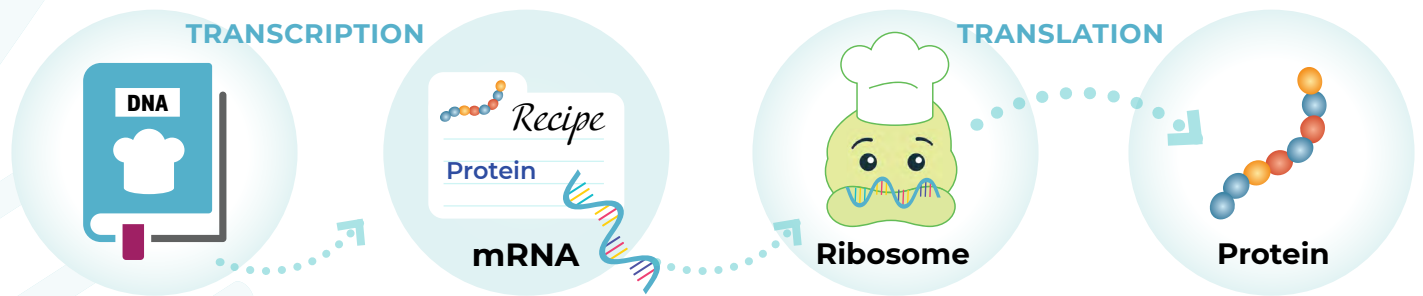


What is mRNA?

Messenger ribonucleic acid (mRNA) is a critical part of human biology

Your body is using millions of tiny proteins for its regular functions right now, just to stay alive and healthy. And while your DNA plays a role, messenger RNA (mRNA) might just be the MVP.

PROTEIN SYNTHESIS



mRNA is different from DNA. Think of your DNA as a giant cookbook: it contains all of the recipes that your cells need to use in order to function. mRNA's job is to copy a recipe from the cookbook and then bring it to the part of the cell that uses it to build a protein. Like the name implies, mRNA acts as a messenger to relay the copied recipe from the cookbook (DNA) to the “chef” (ribosome) so that the recipe can be followed.

In technical terms, these processes are called transcription (copying the recipe from the cookbook) and translation (using the recipe to build a protein).

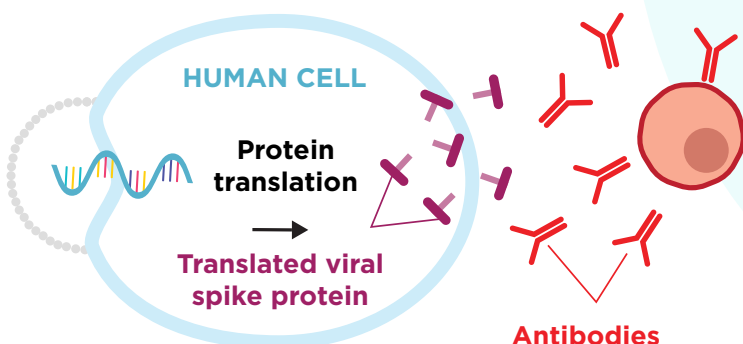
The new COVID-19 vaccines capitalize on these natural processes to help build your immunity.

What does the mRNA in my COVID-19 vaccine do?

The pre-packaged mRNA contains the “recipe” for a harmless version of the spike protein on SARS-CoV-2 (the virus that causes COVID-19). This skips the transcription process and jumps right to translation.

Your cells use the recipe to build the spike protein, which your immune system then uses to create antibodies and other defences against the real virus.

IMMUNE RESPONSE



THESE VACCINES:

- Cannot change your DNA**
The mRNA in the vaccines never interacts with your DNA. It cannot and will not alter your genes.
- Cannot give you COVID-19**
The mRNA in the vaccines only has information about part of the virus (the spike protein) and not the whole thing. That means it cannot cause the disease—it's more like telling your immune system about the virus's Achilles heel.
- Cannot stay in your body 'forever'**
Just like the mRNA your cells use daily for their regular functions, the mRNA in COVID-19 vaccines will naturally get broken down and eliminated from your body in a matter of days.

Decades of research led to the development of mRNA vaccines.

Learn more at <https://cihr-irsc.gc.ca/e/52424.html>

