

Types of COVID-19 Vaccines

Numerous vaccines are being developed globally to protect against the novel coronavirus (SARS-CoV-2) that causes COVID-19. Below is an overview of the different types of COVID-19 vaccines available in Canada.

Messenger RNA (mRNA) vaccines

This vaccine contains specific genetic information (mRNA) that instructs the body on how to make a protein, in this case the SARS-CoV-2 “spike” protein found on the surface of the virus, to trigger an immune response. Once triggered, a person’s immune system becomes trained to produce specific antibodies that recognize and attack the virus if a person becomes exposed. An mRNA vaccine does not use the live virus and after the protein is made, the body destroys the instructions.

Health Canada has authorized the use of mRNA vaccines from [Pfizer-BioNTech](#) and [Moderna Therapeutics](#) to prevent COVID-19.

Viral vector-based vaccines

This vaccine uses a harmless virus, such as an adenovirus (common cold virus), to act as a delivery system for the genetic information (DNA) that instructs the body on how to make the SARS-CoV-2 spike protein. The adenovirus can enter the body’s cells to deliver the necessary information, but it cannot replicate or do harm. As with the mRNA vaccine, this process allows the body to trigger an immune response without exposing the person to the live virus. Once triggered, a person’s immune system becomes trained to produce specific antibodies that recognize and attack the virus if a person becomes exposed.

The COVID-19 vaccines from [AstraZeneca](#) and [Janssen \(Johnson & Johnson\)](#) are adenovirus-based vaccines.

Resources:

[COVID-19 Vaccines](#)