



Australian Government

Department of Health and Aged Care
Office of the Gene Technology Regulator

26 June 2024

mRNA COVID-19 vaccines are not gene therapies

Misinformation has been reported that mRNA COVID-19 vaccines are gene therapies.

To address this confusion, we are breaking down the difference between a gene therapy and a vaccine.

A gene therapy is a medicine to modify a gene to treat or cure a disease. The medicine may add, delete, replace, or alter a gene to do this. Gene therapy products may contain a virus, bacteria, plasmid, messenger RNA (mRNA) or DNA to treat or prevent a disease caused by a person's gene. Examples include Luxturna (to treat genetic retinal disease), Zolgensma (to treat spinal muscular atrophy) and Hemgenix (to treat Haemophilia B).

A vaccine is a medicine that causes an immune response in the body to help it recognise and fight viruses or disease. Vaccines contain a virus, bacteria, protein, mRNA or DNA to protect your body from disease caused by a pathogen. Examples include mRNA COVID-19, chickenpox, measles and whooping cough vaccines.

Messenger RNA can be part of a gene therapy or a vaccine depending on the genetic code it carries and its purpose. The mRNA COVID-19 vaccines do not contain the machinery to modify a gene in the body.

The purpose of mRNA COVID-19 vaccines is to protect the body from COVID-19, known as the SARS-CoV-2 virus. mRNA COVID-19 vaccines cannot modify the genes in the body, meaning mRNA COVID-19 vaccines are not gene therapies.
