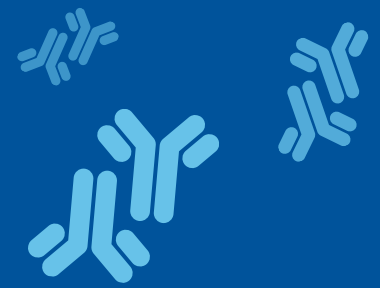


# Monoclonal Antibodies (mAbs)



## What is a monoclonal antibody?

- Antibodies are proteins made by the body's immune system that circulate in the blood. They recognize and defend against foreign substances like bacteria and viruses.
- Monoclonal antibodies are molecules produced in a laboratory to mimic the antibodies produced naturally by the immune system.
- FDA first approved monoclonal antibody therapy in 1986. Monoclonal antibodies have been used to treat many diseases, including certain cancers, autoimmune disorders, and metabolic diseases, such as asthma and rheumatoid arthritis.
- In recent years, the use of mAbs has expanded to include prevention and treatment of infectious diseases, such as COVID-19 and RSV.

## Active vs. passive immunity

- Vaccines offer active immunity, as they stimulate the body's own immune response against a virus.
- Monoclonal antibodies are a type of passive immunity, in which antibodies are delivered as a medication, rather than being produced by the body's own immune system. They may provide both an immediate effect as well as long-acting protection against infection and serious disease.

## Differences between vaccines and monoclonal antibodies

	Vaccine	Monoclonal Antibody
<b>Type of immunity</b>	Active	Passive
<b>How it works</b>	Stimulates the immune system to produce antibodies that provide protection against disease	A molecule that mimics a natural antibody which will help provide protection against disease
<b>How long it takes to be effective</b>	Typically 10 days to 2 weeks following vaccination	Almost immediately after administration
<b>How long protection lasts</b>	Usually provides long-term protection	Usually provides short-term protection (1 to 6 months)