

COVID-19 tests

What's the difference?



Type of test	Molecular	Antigen	Antibody
Description	Molecular testing detects the presence of the SARS-CoV-2 virus RNA. If the test comes back positive, it can be an indicator that the patient has an active COVID infection.	Antigen testing detects the presence of the SARS-CoV-2 virus particles. If the test comes back positive, it can be an indicator that the patient has an active COVID infection.	Antibody/Serology testing detects antibodies to the SARS-CoV-2 virus. If the test comes back positive, it can be an indicator that the patient has mounted an immune response to the virus.
Sample collection	A deep nasal swab collects virus particles. 	A deep nasal swab collects virus particles. 	A blood draw collects antibodies produced by immune cells.
Infection and how testing works	The virus infects the patient. When tested, the RNA derived from sample is transcribed into DNA and amplified.	As the infection progresses, viral particles can be measured using immunoassay techniques.	After two days, IgM antibodies are produced to attack the virus. After 9-11 days, tailored antibodies called IgG are produced. These antibodies are then measured using immunoassay techniques.
Advantages	<ul style="list-style-type: none">• Tells you if you are infected now• Can detect early infections• Provides highly sensitive and specific results	<ul style="list-style-type: none">• Tells you if you are infected now• Can detect early infections• Simple designs lead to rapid results and are more suited to test large numbers of people	<ul style="list-style-type: none">• Reliably detects an immune response to the virus• Simple designs lead to rapid results and are more suited to test large numbers of people
Limitations	<ul style="list-style-type: none">• Cannot detect those who've been infected and later recovered• Possibility of false negatives if patient has been recently infected	<ul style="list-style-type: none">• Cannot detect those who've been infected and later recovered• Possibility of false negatives if patient has been recently infected	<ul style="list-style-type: none">• Cannot distinguish if patient is contagious or infection is still present• Possibility of false negatives if patient has been recently infected or has a delayed immune response• Unknown if presence of antibody confers immunity