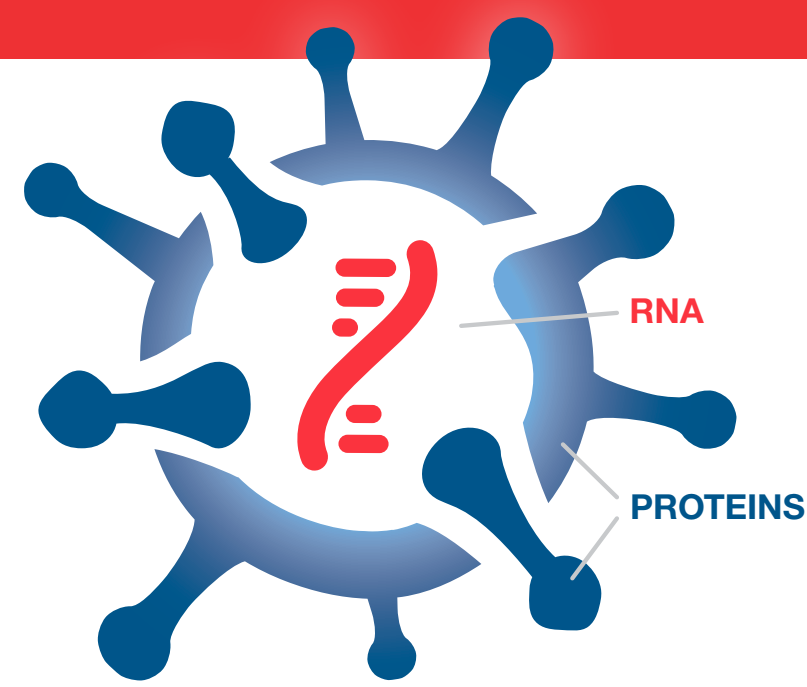


COVID-19 PCR and antigen tests: get the facts



There are **different types of technologies** used to test for SARS-CoV-2.

PCR tests

A diagram showing the PCR process: a test tube, a pipette, and a DNA double helix.

- Detect viral **RNA**.
- SARS-CoV-2 **RNA** is extracted from the sample (throat swab, nasal swab, or saliva sample).
- PCR—a type of nucleic acid amplification test—is then used to detect the viral genome.

Antigen tests

A diagram showing the antigen test process: a test tube, a virus particle, and an antibody binding to a protein on the virus.

- Detect the antigen—in this case, viral **proteins**.
- The sample (most commonly a nasal swab) is added to a surface coated with **antibodies** that bind to specific viral **proteins**; this is used to create a signal that detects the virus.

When to use a **PCR** or **antigen** test

When to ask for a PCR test

An icon of a person with arms raised in celebration.

- When you need **accurate** results with high **confidence**.
- Ideal for diagnostic and population surveillance testing, especially in a high-volume setting.
- If you have symptoms and a positive antigen test result, get a PCR test for confirmation.

When to ask for an antigen test

An icon of a test tube and a clock.

- When you need **convenience** and **speed** to quickly determine if a person may have the virus.
- Ideal for point-of-care testing and screening high-risk congregate settings—not for asymptomatic populations.

Accuracy takes into account sensitivity and specificity by measuring how the test can correctly identify if a sample is infected with SARS-CoV-2.

How sensitive is a PCR test?

- PCR tests have **>99%** sensitivity for detection of the virus and are considered the “gold standard” for detecting whether the virus is present.
- Highly sensitive PCR tests can detect low viral loads, especially in the absence of symptoms.

A diagram showing 5 people with positive PCR results, indicated by red plus signs.

Test result: + + + + +

How sensitive is an antigen test?

A diagram showing 5 people with false negative antigen results, indicated by green minus signs.

Test result: - - - - -
False negative

- Antigen tests have an average sensitivity of **64%** in **symptomatic** cases, meaning 36% (~2 in 5) positive cases receive a negative result (known as **false negatives**).*
- Antigen tests have an average sensitivity of **36%** in **asymptomatic** cases, meaning 64% (~3 in 5) of positive cases receive a negative result (**false negatives**).*

* [cdc.gov/mmwr/volumes/70/wr/mm7003e3.htm](https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e3.htm)

Turnaround time for each type of test

How long does it take to get PCR test results?

An icon of a PCR machine and a clock.

- It can take as little as **24 hours** to get results.

How long does it take to get antigen test results?

An icon of an antigen test kit and a clock.

- It can take up to **30 minutes** to report out each individual result, especially if the result is negative.

Make sure you know what type of test you are receiving.

For the latest CDC guidelines, please refer to:
[cdc.gov/coronavirus/2019-ncov/lab/testing.html](https://www.cdc.gov/coronavirus/2019-ncov/lab/testing.html)
[cdc.gov/coronavirus/2019-ncov/lab/resources/antigen-tests-guidelines.html](https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antigen-tests-guidelines.html)