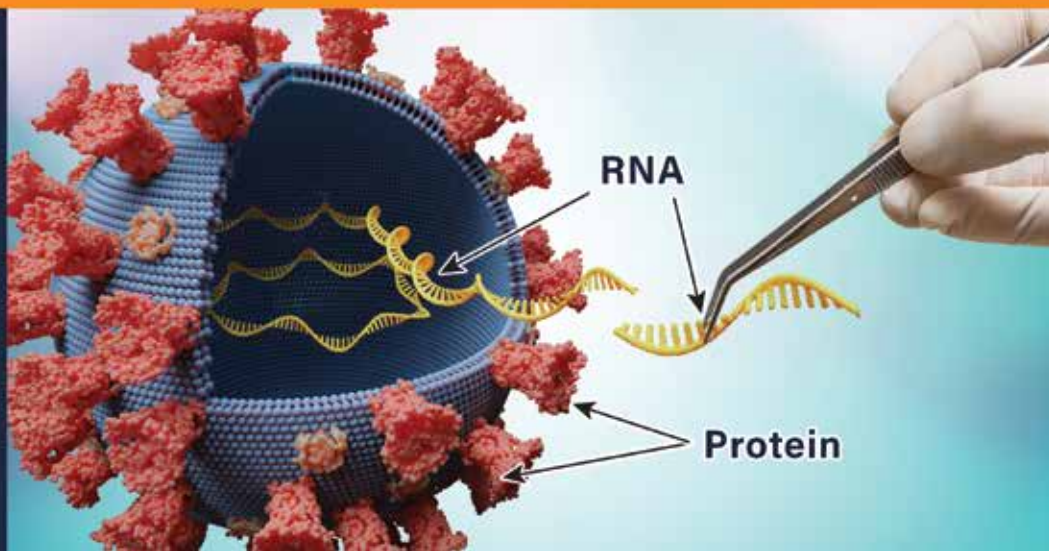
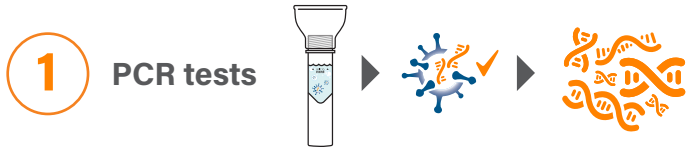


Get the Facts on PCR & Antigen Tests

Make sure you know what type of test you are receiving



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



1 PCR tests

- Molecular **diagnostic testing** that detects viral **RNA** of the virus
- SARS-CoV-2 **RNA** is extracted from a collected bio-sample (throat swab, nasal swab, or saliva sample)
- PCR—a type of nucleic acid amplification test—is then used to detect the viral genetic material
- Amplification makes the virus easier to detect
- Testing is more sensitive, specific, and accurate



2 Antigen tests

- Detects the antigen—in this case proteins from the virus
- 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

- 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

- 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 **over 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



Test result: + + + + +

? How sensitive is an antigen test?

- 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**)*



False negative Test result



False negative Test result

* CDC MMWR, “Evaluation of Abbott BinaxNOW” 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?

- It can take as little as **12-24 hours** to get results



? How long does it take to get antigen test results?

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



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For the latest guidelines, please refer to:

The CDC:

cdc.gov/coronavirus/2019-ncov/lab/testing.html

cdc.gov/coronavirus/2019-ncov/lab/resources/antigen-tests-guidelines.html

The European CDC:

ecdc.europa.eu/en/publications-data/options-use-rapid-antigen-tests-covid-19-eueea-and-uk

The World Health Organization:

who.int/publications/i/item/antigen-detection-in-the-diagnosis-of-sars-cov-2-infection-using-rapid-immunoassays