Tools for testing—RT-PCR vs. rapid antigen detection test (RADT)

Head-to-head comparison

	RT-PCR (detects RNA)	**RADT** (detects viral proteins)
Sensitivity	In a study reported by the CDC, ~3,400 samples were collected and analyzed via RADT, and the results were verified through RT-PCR. The results from the sensitivity studies are outlined below [1].	
	• **>99%** sensitivity on all cases • Superior accuracy	**Symptomatic cases** • ~2 in 5 positive cases receive negative result • Average sensitivity: **64%**
		Asymptomatic cases • ~3 in 5 positive cases receive negative result • Average sensitivity: **36%**
		Due to poor sensitivity, multiple tests and/or confirmation through RT-PCR are recommended [1]
Scalability	An RT-PCR instrument is capable of running thousands of samples per day.	RADT requires significant hands-on time for trained operators to administer and interpret results, as each test requires its individual test kit. Therefore, to run a large number of samples, many test kits and personnel are needed.
Turnaround time	**~24 hours**	**15–30 minutes**

Through community testing efforts, you can isolate and quarantine individuals to help keep people safe.

Be informed about the different tests available, and when each is appropriate. For the latest CDC guidelines, please refer to:
cdc.gov/coronavirus/2019-ncov/testing/diagnostic-testing.html
cdc.gov/coronavirus/2019-ncov/lab/resources/antigen-tests-guidelines.html

Reference

[1] Prince-Guerra JL, Almendares O, Nolen LD, et al. Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 Infection at Two Community-Based Testing Sites — Pima County, Arizona, November 3–17, 2020. cdc.gov/mmwr/volumes/70/wr/mm7003e3.htm

To learn more, download our free guide to asymptomatic population testing at **thermofisher.com/testingguide**

ThermoFisher SCIENTIFIC