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NIH announces boost in COVID-19 testing capacity worth $129.3M

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The National Institutes of Health (NIH) in the US have announced $129.3 million in scale-up and manufacturing support for a new set of COVID-19 testing technologies as part of its Rapid Acceleration of Diagnostics (RADx) initiative.

NIH is awarding contracts to nine companies for technologies that include portable point-of-care tests for immediate results and high-throughput laboratories that can return results within 24 hours. These tests add to initial awards made to seven companies on July 31, 2020.

In addition to NIH support, aspects of some of the testing technologies have been supported by the Biomedical Advanced Research and Development Authority (BARDA), also in the Department of Health and Human Services, and by the Defense Advanced Research Projects Agency (DARPA), in the Department of Defense.

Point-of-care tests

MatMaCorp, Lincoln, Nebraska

A portable mini-lab that can rapidly perform multiple RT-PCR assays in a single platform. This technology can be used with multiple sources of reagents and is targeted for community hospitals and clinics in underserved, rural populations.

Maxim Biomedical Inc, Rockville, Maryland

A single-use, lateral-flow test strip immunoassay that can provide results in 15 minutes or less. With the improved workflow, the assay can be performed without an instrument for reading and does not require any specialized equipment.

MicroGEM International, Charlottesville, Virginia

A portable, point-of-care device that detects SARS-CoV-2 in saliva samples using RT-PCR in 15 minutes. The test uses a microfluidic cartridge with the potential for simultaneous detection of multiple pathogens such as influenza.

Lab-based tests

Aegis Sciences, Nashville, Tennessee

A novel coronavirus nucleic acid detection kit and distribution system for high through-put testing that uses nasal and oral swab samples. Has recently quadrupled capacity to 15,000 samples per day and will soon reach 60,000 samples per day. After receipt of samples, these tests will return results in 24 hours or less on average.

Broad Institute, Cambridge, Massachusetts

A high-throughput RT-PCR COVID-19 viral test using specimens from nasal swabs that will be scaled up. Its facility already performs tests for more than 530 regional hospitals, nursing homes, shelters, community health centers, senior living facilities and at state and city collection sites in vulnerable communities. The award is helping to increase from 25,000 to 100,000 tests per day.

Ceres Nanoscience Inc, Manassas, Virginia

A sample prep method using Nanotrap particles that extracts and concentrates viral material to reduce processing time and improve sensitivity. This method can be used on a variety of testing platforms, from point-of-care systems to high-throughput laboratory processes, to improve speed and performance by 2- to 10-fold.

Illumina, San Diego, California

Automated sample processing and next-generation sequencing technology for COVID-19 testing that will be scaled up. Its high-throughput capacity can be expanded to 48,000 tests per day. Upon receipt of samples at the laboratory, the company can process results for the Illumina COVIDSeq test within 24 hours.

PathGroup, Nashville, Tennessee

Uses Roche 6800 and Hologic Panther instruments to currently process about 10,000 COVID-19 RNA tests a day. Has infrastructure in place in 20 states throughout the U.S. Southeast and Midwest. They have partnered with ThermoFisher, LGC and Illumina to add additional instrumentation and automation to increase the daily number of COVID-19 tests performed to 80,000 by December 2020.

Sonic Healthcare USA, Austin, Texas

Expanded scope and expedited timeline of a framework for large-scale COVID-19 RT-PCR testing platforms and distribution capacity. With a network of regional testing hubs located in various clinical settings and geographic areas, the company can simultaneously deploy multiple test platforms and methodologies. Using specimens from predominantly nasal swabs, they will continue to add capacity to reach about 166,000 samples tested per day with new high-throughput technology.