



Accelerating the Future of SARS-CoV-2 Testing

Helping a Michigan Laboratory Scale for a High Sample Volume

In spring 2020, Arctic Medical Laboratories (ArcticDx), located in an industrial complex in Grand Rapids, Michigan was a specialty lab performing molecular genetic testing for uncommon diseases. When the COVID-19 pandemic spread across the US, ArcticDx quickly responded to the growing need for testing by processing samples from nursing homes, hospitals, and even a 1000-employee chicken farm.

“How do we manage a large volume of potentially infectious biomaterial in a safe fashion?”

– **Brent Zanke, MD, PhD**

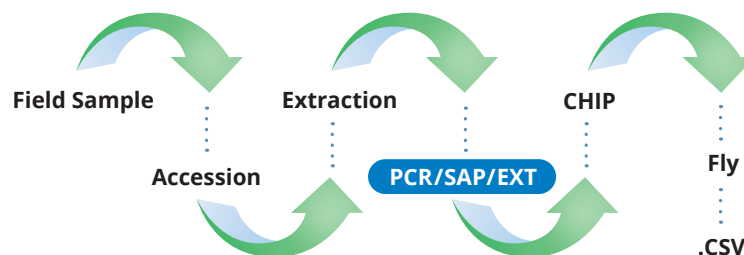
Laboratory Director, Arctic Medical Laboratories



Brent Zanke, the laboratory director at ArcticDx, developed an entire processing schema of the sample testing lifecycle, which includes accession, extraction, PCR/SAP/EXT, CHIP, Fly, and .CSV.



PROCESSING SCHEMA



The PCR/SAP/EXT stage is where the laboratory partnered with Agena Bioscience® for a high-volume and low-cost alternative to RT-PCR testing—utilizing the MassARRAY® System that can process up to thousands of samples per day on a single machine for under \$10 per sample. Dr. Zanke elaborates on the process below:

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Case Study: Accelerating the Future of SARS-CoV-2 Testing – continued

“We’re set up to do about 400 samples over the course of about an hour and a half from sample receipt through accessioning and extraction using the Mag-Bind Viral RNA Xpress Kit on the Biomek Fx. The 18 double-headed PCR machines at ArcticDx have the high capacity to take the sample plates and proceed to the analysis stage. Each plate accounts for 94 samples plus an internal extraction/ amplification MS2 bacteriophage control and a non-template control.

“We considered qPCR but realized that the requirements would be huge to get the output we need as a separate well would be required for each amplification target.”

For an enterprise that could be receiving a thousand—sometimes more—samples per day, the MassARRAY System makes a substantial difference in ensuring the operation can meet the demands.

“The number of samples that can be accommodated is pretty impressive. It’s one sample per well. And if you have all the PCR machines going at once, the throughput is actually quite impressive.”

– Brent Zanke

WHAT CAN YOU DO NEXT?

The SARS-CoV-2 Panel from Agena Bioscience® enables high-throughput, low-cost detection of COVID-19 caused by SARS-CoV-2 infection. The single-well, multiplexed assay targets 5 highly conserved regions of the viral genome, providing high accuracy and low limit of detection. Visit agenabio.com/sc2 to learn more.

Available Now

The SARS-CoV-2 Panel has been submitted for Emergency Use Authorization (EUA) from the U.S. Food and Drug Administration (FDA) for in vitro diagnostic use. The SARS-CoV-2 Panel is CE-IVD marked and intended for in vitro diagnostic use in Europe. For other regions, please visit our Research Use Only Panel at agenabio.com/sc2ruo.

The Agena Bioscience SARS-CoV-2 Panel is for *in vitro* diagnostic use – pending FDA review.
All other products are for research use only. Not for use in diagnostic procedures.