Resource Summary Report

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Stanford and Purigen Biosystems Microfluidics Team protocol XPRIZE updated

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Protocol Information

URL: https://dx.doi.org/10.17504/protocols.io.bqzrmx56

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Summary: The Stanford University and Purigen Biosystems team's SARS-CoV-2 assay leverages on-chip microfluidics to eliminate laborious and time consuming steps associated with standard molecular diagnostics such as solid phase spin-column extraction and PCR amplification. Purification of nucleic acids from a variety of biological sources is achieved in a one-step, automated fashion using on-chip isotachophoresis (ITP). The purified nucleic acids are then amplified using reverse transcription (RT) loop-mediated isothermal amplification (LAMP) in 30 minutes, less than half of the time associated with standard qPCR. We then use CRISPR-Cas12 fluorescent detection to identify amplicons associated with the SARS-CoV-2 genome for enhanced specificity.??

Affiliations: Purigen Biosystems, Inc

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