

Resource Summary Report

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) real-time RT-PCR N gene 2020

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Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.bhpbwj5pe>

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Group: Public Health Virology, Forensic and Scientific Services, Coronavirus Method Development Community

Summary: A real-time RT-PCR to designed to detect SARS-CoV-2 and other related sarbecoviruses. Based on sequence MN908947 made available by Professor Yong-Zhen Zhang, Fudan University, Shanghai, China. The target region encodes the nucleocapsid (N). Tested on wild-type SARS-CoV-2 virus , it is expected to be capable of detecting SARS-CoV-2, bat-like SARS and SARS virus (members of the subgenus Sarbecovirus). Limit of detection not yet determined. The performance of the assay has not been tested with low viral load samples or samples from patients who are clinically well. The sensitivity of this assay was improved with the use of the SensiFast™ Probe Lo-ROX One-step kit. A single 1 mismatch at probe-binding site identified with the BetaCoV/USA/CA1/2020|EPI_ISL_406034 (GenBank MN994467.1) variant of SARS-CoV-2 (as of 23JUNE2020). Probe is in the 3'-5' (reverse complement) direction. Reverse primers were replaced in March 2020. We also recommend the ORF1ab assay (Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) real-time RT-PCR ORF1ab 2020), US-CDC-N1 assay or the E gene assay by Corman et al. (Protocol v2-1) Notes: Assay is optimised. This test has identified clinical positive cases of coronavirus disease (COVID-19) Notes: Assay is optimised. This test has identified clinical positive cases of coronavirus disease (COVID-19)

Affiliations: Public Health Virology, Forensic and Scientific Services, Public Health Virology, Forensic and Scientific Services

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