U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30329-4027

*******DISCLAIMER********

These sequences are intended to be used for the purposes of respiratory virus surveillance and research. The recipient agrees to use them in compliance with all applicable laws and regulations. Every effort has been made to assure the accuracy of the sequences, but CDC cannot provide any warranty regarding their accuracy. The recipient can acknowledge the source of sequences in any oral presentations or written publications concerning the research project by referring to the Division of Viral Diseases, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, GA, USA.

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2019-Novel Coronavirus (2019-nCoV) Real-time rRT-PCR Panel

Primers and Probes

2019-Novel Coronavirus (2019-nCoV) Real-Time rRT-PCR Panel Primer and Probes				
Label Name	**Description**	**Oligonucleotide Sequence (5'>3')**	**Label[1]**	**Final Conc.**
2019-nCoV_N1-F	2019-nCoV_N1 Forward Primer	GAC CCC AAA ATC AGC GAA AT	None	500 nM
2019-nCoV_N1-R	2019-nCoV_N1 Reverse Primer	TCT GGT TAC TGC CAG TTG AAT CTG	None	500 nM
2019-nCoV_N1-P	2019-nCoV_N1 Probe	FAM-ACC CCG CAT TAC GTT TGG TGG ACC-BHQ1	FAM, BHQ-1	125 nM
2019-nCoV_N1-P	2019-nCoV_N1 Probe	FAM-ACC CCG CAT /ZEN/ TAC GTT TGG TGG ACC-3IABkFQ	FAM, ZEN, 3IABkFQ	125 nM
2019-nCoV_N2-F	2019-nCoV_N2 Forward Primer	TTA CAA ACA TTG GCC GCA AA	None	500 nM
2019-nCoV_N2-R	2019-nCoV_N2 Reverse Primer	GCG CGA CAT TCC GAA GAA	None	500 nM
2019-nCoV_N2-P	2019-nCoV_N2 Probe	FAM-ACA ATT TGC CCC CAG CGC TTC AG-BHQ1	FAM, BHQ-1	125 nM
2019-nCoV_N2-P	2019-nCoV_N2 Probe	FAM-ACA ATT TGC /ZEN/ CCC CAG CGC TTC AG-3IABkFQ	FAM, ZEN, 3IABkFQ	125 nM
RP-F	RNase P Forward Primer	AGA TTT GGA CCT GCG AGC G	None	500 nM
RP-R	RNase P Reverse Primer	GAG CGG CTG TCT CCA CAA GT	None	500 nM
RP-P	RNase P Probe	FAM – TTC TGA CCT GAA GGC TCT GCG CG – BHQ-1	FAM, BHQ-1	125 nM
RP-P	RNase P Probe	FAM-TTC TGA CCT /ZEN/ GAA GGC TCT GCG CG-3IABkFQ	FAM, ZEN, 3IABkFQ	125 nM

[1]TaqMan® probes are labeled at the 5'-end with the reporter molecule 6-carboxyfluorescein (FAM) and with the quencher, Black Hole Quencher 1 (BHQ-1) (Biosearch Technologies, Inc., Novato, CA) at the 3'end. TaqMan® probes can also be labeled at the 5'-end with the reporter molecule 6-carboxyfluorescein (FAM) and with a double quencher, ZEN™ Internal Quencher positioned between the ninth (9th) and tenth (10th) nucleotide base in the oligonucleotide sequence and Iowa Black® FQ (3IABkFQ) located at the 3'-end (Integrated DNA Technologies, Coralville, IA).

Note: Oligonucleotide sequences are subject to future changes as the 2019-Novel Coronavirus evolves.

Last Updated: May 29, 2020