

# VERI-Q™ COVID-19 RT-qPCR Kit



## SARS-CoV-2 Detection

The VERI-Q™ COVID-19 RT-qPCR Kit detects RNAs from *ORF3a* and *N* genes of SARS-CoV-2 with extremely high sensitivity and specificity. RNAs from nasopharyngeal swab, oropharyngeal swab, or sputum specimens can be used for accurate detection of COVID-19 by our one-step reverse transcription and real-time PCR.

### Workflow



VERI-Q™ COVID-19 RT-qPCR Kit

### ✓ Compatible RT-qPCR Instruments

Real-time PCR Instrument	Manufacturer	Cat. No.
CFX 96	Bio-Rad	1845096
ABI 7500	Thermo Fisher	4345241
VERI-Q PCR 316	MiCo BioMed	9R501

### ✓ Specimen

- Nasopharyngeal (NP) swab
- Oropharyngeal (OP) swab
- Sputum

### ✓ Analytical Sensitivities by VERI-Q Kit

	ORF3a gene	N gene
ABI7500	21.6 copies/rxn (270.6 copies/mL)	21.9 copies/rxn (273.8 copies/mL)
Bio-Rad, CFX96	6.0 copies/rxn (75.4 copies/mL)	10.1 copies/rxn (126.1 copies/mL)
Veri-Q PCR 316 QD-P100	8.9 copies/rxn (297.8 copies/mL)	9.0 copies/rxn (301.1 copies/mL)



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 Easy Answers to Life  
 Through Innovative Point-of-Care Diagnostics

# The Choice in Your Hands

## Materials Provided

Kit Components	Color	Volume (100 tests)
2X One-Step RT-PCR Master Mix	Purple	500 µL x 2
Primer/Probe Mixture	Brown	100 µL
Positive Control	Red	200 µL
Internal Positive Control	Yellow	100 µL
Nuclease Free Water	Green	300 µL



Standard Package: 100 tests/kit  
Unit Size: 95 x 40 x 55 mm, 70 g

## Fluorophore and Cut-off

Target Genes	Color	Cut-off Ct
ORF3a	FAM	< 40
N	Cy5	< 40
IPC	Texas Red	< 40

The specifically designed probes bind to target amplicon selectively. Fluorescence intensity is proportional to the amount of target pathogens in the sample.

## Result Interpretation

Sample	ORF3a	N	IPC	Result
	FAM	Cy5	Texas red	
Negative Control	-	-	+	Valid
	One positive		+/-	Invalid, re-test
Positive Control	+	+	+	Valid
	One Negative		+/-	Invalid, re-test
Case 1	-	-	+	Negative
Case 2	+	+	+/- <sup>c</sup>	COVID-19
Case 3	+	-	+/- <sup>c</sup>	COVID-19 <sup>a</sup>
Case 4	-	+	+/- <sup>c</sup>	Potential COVID-19 <sup>b</sup>
Case 5	-	-	-	Invalid, re-test

\* Cut off: < 40 Ct

\*\* Quality control is performed using PC (Positive Control) and IPC (Internal Positive Control).

a If ORF3a alone is detected, the test result is counted as a COVID-19 positive.

b If N alone is detected, the test result is counted as a Potential COVID-19. At the low concentration of viral RNA, only one of the two targets may be detected. In this case, we recommend to repeat the test from the sample preparation for further clear confirmation. If the same result still comes out, we strongly recommend to repeat the test using newly collected sample.

\*\*\* Here, we count "Potential COVID-19" as invalid with strong recommendation to repeat the test again for clear confirmation.

c High amplification of the sample signals may cause to decrease or removal of the IPC signals.

## Clinical Evaluation using Standard Molecules

		Positive	Negative
ABI 7500	Positive	34	0
	Negative	0	90
BioRad CFX96	Positive	34	0
	Negative	0	90
VERI-Q PCR 316	Positive	34	0
	Negative	0	90

Performance of the VERI-Q COVID-19 Multiplex Detection Kit was evaluated using contrived swab specimens spiked with whole viral SARS-CoV-2 RNA (from Korea Center for Disease Control NCCP Cat #43326). Clinical evaluation using 90 negative and 34 contrived positive clinical matrix samples resulted in perfect matches among three compatible instruments.



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