

Dow QuickFinder™ 2019-nCoV Real time PCR Kit

DowGene

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DowGene DNA Testing Company

www.dowgene.com



[Dow QuickFinder™ 2019-nCoV Real time PCR Kit] (Cat.no. DG-CV0201)

Dow QuickFinder™ 2019-nCoV Real time PCR Kit is in vitro diagnostic reagent to qualitative detection of N gene of Novel coronavirus (2019-nCoV) from extracted RNA from Nasopharyngeal swab or Oropharyngeal swab by real-time reverse-transcription PCR method.

■ Specimen type

- : Sputum
- : Oropharyngeal swab
- : Nasopharyngeal swab

■ Instruments

- : Applied Biosystems® 7500/7500 fast Real-time PCR System

Detection Target Region



2019-nCoV Detection region 3 of DowGene

- N gene (N1, N2, N3)

: Simultaneous Detection of N gene

: CDC 2019-Novel Coronavirus (2019-nCoV) Real-time rRT-PCR Panel Panel Primers and Probes

: High specific targets were selected based on the US CDC.



Comparative analysis of primer-probe sets for the laboratory confirmation of SARS-CoV-2

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Comparative analysis of Ct values obtained by employing each primer-probe set

Target	Country	Name	Ct value			
			1.5 x 10 ⁴ copies	1.5 x 10 ³ copies	1.5 x 10 ² copies	1.5 x 10 ¹ copies
N	China	N	24.01	26.96	30.46	34.86
	Hong Kong	HKU-N	26.00	29.45	33.17	35.43
	Japan	NIID_2019-nCOV_N	23.09	26.56	29.5	33.13
	Thailand	WH-NIC N	28.64	31.89	35.26	38.13
	USA	2019-nCoV_N1	24.25	27.50	30.57	34.71
	DowGene	2019-nCoV_N2	22.88	26.12	29.26	33.14
		2019-nCoV_N3	22.64	26.01	29.42	33.09
RdRp/Orf1	China	ORF1ab	27.33	30.33	33.61	36.85
	Germany	RdRp_SARSr	31.89	35.14	38.57	-*
	Hong Kong	HKU-ORF1b-nsp14	29.04	32.03	35.33	38.97

* The assay with RdRp_SARSr (Germany) set showed a positive signal (43.00) from the single reaction of triplicate.

Clinical trial results : All 13 of the positive samples were positive

Table.1

Comparative analysis of Ct Values obtained by employing each primer-probe set

Target Gene	Marker name		Ct Value
N Gene	N1*	DowGene	18.77
	N2*		27.57
	N3*		20.00
RdRp Gene	RdRp		31.86
E Gene	E		32.57

* *Dow QuickFinder™ 2019-nCoV Real-time PCR Kit*

As a result of examining 13 patients, all 13 patients were 100% positive.

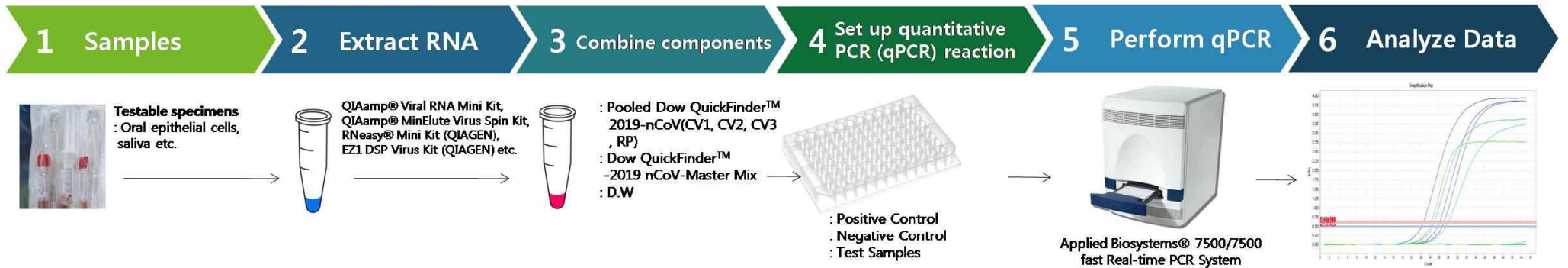
■ 2019-nCoV Real time PCR Kit Comparison

Classification	KogeneBiotech	Seegene	SolGent	DowGene
Products	PowerChek™ 2019-nCoV Realtime PCR Kit	Allplex™ 2019-nCoV Assay	DiaPlexQ™ Novel Coronavirus (2019-nCoV) Detection Kit	Dow QuickFinder™ 2019-nCoV Real time PCR Kit
Method	Real-time reverse- transcription PCR	Real-time reverse- transcription PCR	Real-time reverse- transcription PCR	Real-time reverse-transcription PCR
Test Time	2 hour 30 min ~ 3 hour	2 hour 30 min ~ 3 hour	2 hour 30 min ~ 3 hour	1 hour 40 min
Target Gene	E, RdRP gene	E, RdRP, N gene	N gene, ORF1a	N gene (N1, N2, N3)

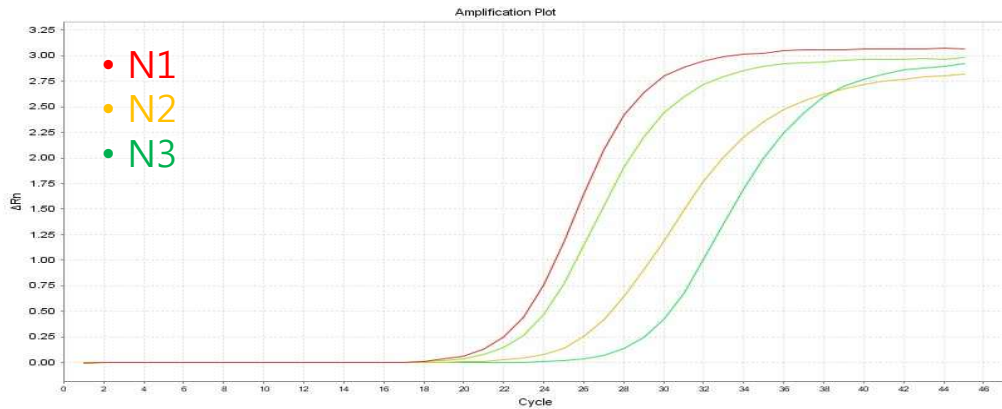
• US CDC : N gene

• Chinese CDC : N gene, ORF1ab

Process



Result Analysis



Target virus	Target genes
Novel coronavirus (2019-nCoV)	N gene

■ Ordering Information for Relative Products (50 reaction)

Content	Amounts	Storage conditions
Dow QuickFinder™-CV1 2019-nCoV	125 µL	Store at : -15 to -25 °C For long-term storage.
Dow QuickFinder™-CV2 2019-nCoV	125 µL	
Dow QuickFinder™-CV3 2019-nCoV	125 µL	
Dow QuickFinder™-RP 2019-nCoV	125 µL	
Dow QuickFinder™-2019-nCoV Master Mix	1 mL	
2019-nCoV Positive Control	50 µL	
HS_RP Positive Control	50 µL	

■ Feature

Feature	
Accuracy	Designed for detection of 2019-nCoV
Rapid test	1 hour 40 min
Convenience	Easy and quick test by interlocking RNA extraction equipment

■ Analysis of Results

- Check the Ct value of each target sample.
- Ct value ≤ 35 is determined by positive (+), or Ct value > 35 is determined by negative (-)
- Determine the results according to the following table.

no.	Specimen	CV1	CV2	CV3	RP	Explanation	Result
1	Negative Control	-	-	-	-	Not detected in all reponses	Normal
2	2019nCoV Positive Control (Corona virus positive control)	+	+	+	-	Detected on CV1, CV2, CV3	Normal
3	HS-RP Positive Control (Human positive control)	-	-	-	+	Detected on RP only	Normal
4	Sample 1	-	-	-	+	Detected on RP only	Corona virus negative
5	Sample 2	-	-	-	-	Due to undetectable RP reponses, performing a re-extraction experiment	Re-inspection
6	Sample 3	+	+	+	+	Detected on CV1, CV2, CV3, RP	Corona virus positive
7	Sample 4	+	+	-	+	Detected on CV1, CV2, RP	Corona virus positive
8	Sample 5	+	-	+	+	Detected on CV1, CV3, RP	Corona virus positive
9	Sample 6	+	-	-	+	Detected on CV1, RP	Corona virus positive
10	Sample 7	-	+	+	+	Detected on CV2, CV3, RP	Corona virus positive
11	Sample 8	-	+	-	+	Detected on CV2, RP	Corona virus positive
12	Sample 9	-	-	+	+	Detected on CV3, RP	Corona virus positive
13	Sample 10	+	+	+	-	Due to undetectable RP reponses, performing a re-extraction experiment	Re-inspection