



SPARK  BEYOND

AI DRIVEN TACTICAL AND STRATEGIC RESPONSE TO COVID-19

ARGENTAVIS HOLDINGS CORP

About Coronavirus disease (COVID-19)

Novel coronavirus, denoted 2019-nCoV by the WHO is a positive-sense, single-stranded RNA coronavirus first reported in 2019.

- *On 31 December 2019, the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. A novel coronavirus (2019-nCoV) was identified as the causative virus by Chinese authorities on 7 January.*
- *Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death.*

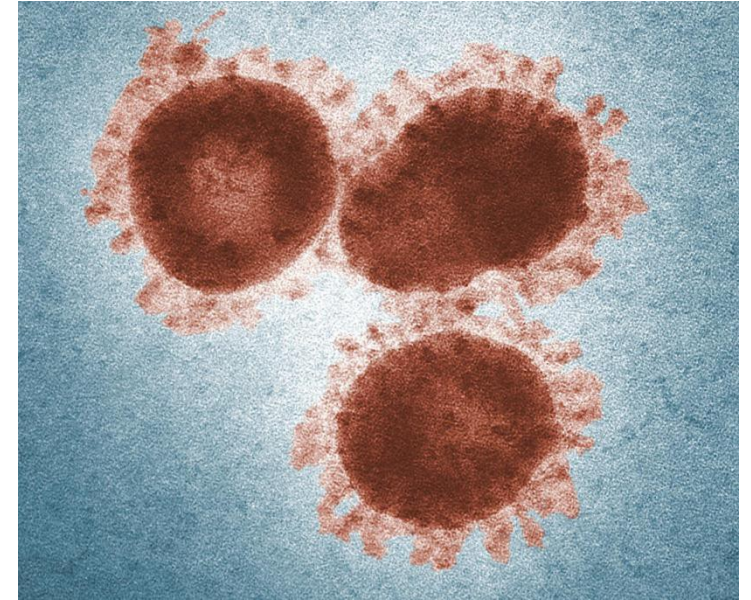


Diagram of 2019-nCoV

About Coronavirus disease (COVID-19)

WHO's standard recommendations for the general public

- *Frequently clean hands by using alcohol-based hand rub or soap and water*
- *When coughing and sneezing cover mouth and nose with flexed elbow or tissue – throw tissue away immediately and wash hands;*
- *Avoid close contact with anyone who has fever and cough;*
- *Seek medical care early and share previous travel history with your health care provider;*
- *Avoid direct unprotected contact with live animals and surfaces in contact with animals;*
- *The consumption of raw or undercooked animal products should be avoided.*



3

Confirmed Cases by Country/Region/Sovereignty

Admin0	Admin1	Admin2
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Cumulative Confirmed Cases

Active Cases

countries/regions

Esri, FAO, NOAA

76,760 recovered	China
30,513 recovered	Spain
24,575 recovered	Germany
19,758 recovered	Italy
17,935 recovered	Iran
14,135 recovered	France
9,707 recovered	US
6,021 recovered	Korea, South
4,846 recovered	Switzerland
2,872 recovered	Belgium



How can we detect 2019-nCoV fast?

The most efficient and fast method to confirm the virus is to detect the nucleic acid of the virus.

be tested's 2019-nCoV Fast Detection Solution:

Sample Collection & Preservation + Automated Virus RNA Extraction + PCR Detection

be tested's Solution:

At the time when all sectors of the society pay close attention to the dynamics of new coronavirus in Wuhan, be tested has taken the lead in research and development, launched a series of novel coronavirus 2019-nCoV detection kits, and formed a complete solution for coronavirus nucleic acid detection.



be tested's complete solution is
CE confirmed.



**Sample
Collection &
Preservation kits**



**MagaBio Virus plus
DNA/RNA Extraction
kits & PCR kits**



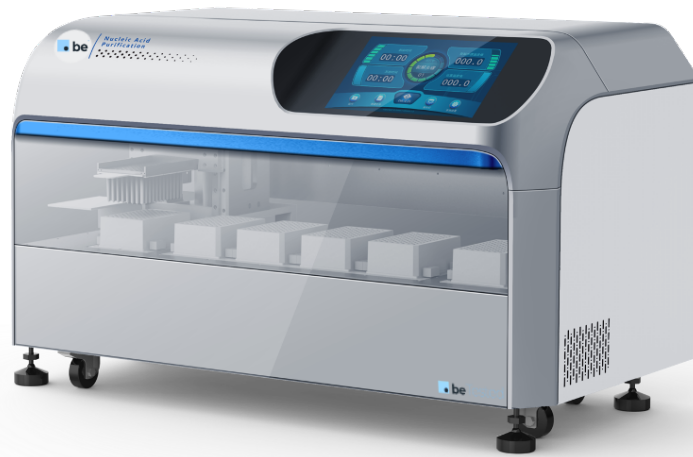
**BGenePure Pro
Nucleic Acid
Purification System**



**Real Time PCR
Detection System
BFQD-48A, BFQD-
96A, BFQC-96C**



**Novel Coronavirus 2019-
nCoV Fluorescence RT-
PCR Detection Kit**



BGeneP 96
Nucleic Acid Purification System
96 samples per run,
with built-in touch screen
with mixing blocks for Lysis and elution



BQuantGene 9600
qPCR Detection System
96x0.2ml,
up to 6 channel multiplex,
6 independent temperature
zones

BGeneP 96 Nucleic Acid Purification System



BGeneP 96

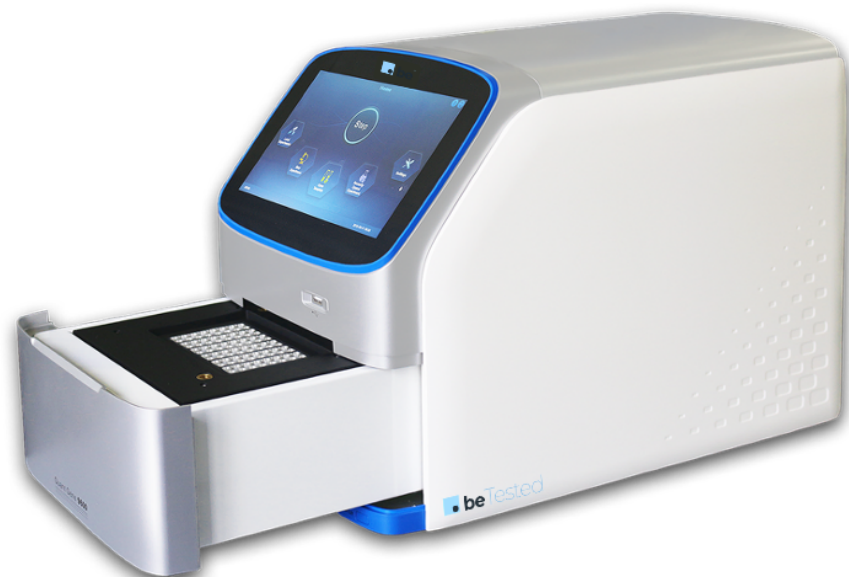
- Sample throughput: 96 samples per run
- High throughput, fully automatic
- Protocol customizable

New Functions:

- Equipped with mixing and heating blocks, up to 2000 rpm
- Laboratory standard bench top size
- Touch screen, integrated operation
- High-speed extraction with pre-loaded reagents

Feature

Matrix light source, cluster fiber, dual filter wheel, CMOS detector; wider range of excitation and reception. Zero distortion of signal transmission.



01

New optic
system design

02

Top detection
No calibration

Feature



No calibration needed due to eliminated optical path difference by using cluster fiber technology. Faster detection speed to 1 sec per plate. No gain value setting and better curve fitting provide wide linear analysis and better reproducibility.

6 temp
zones

03

Feature



6 temp zones, accurate temp control, and built-in hot lid, increase reaction speed and reduce evaporation.

Sample Collection & Pretreatment:

Sample Types	Sample Treatment
Upper respiratory tract specimens (URT)	Pharyngeal swabs, nasal swabs, nasopharyngeal extracts, throat gargle, etc. Add an appropriate amount of normal saline or PBS to the swab to ensure that the solution can immerse the swab. After soaking, vortex vigorously for 2 minutes, and take 300 μ L of solution for sample extraction.
Lower respiratory tract specimens (LRT):	Airway extracts, bronchial lavage fluid, lung tissue biopsy specimens Take 200 μ L of sample, add 200 μ L of sputum liquefaction reagent (available from be tested), shake and mix, incubate at 37 ° C for 10 min, and then take 300 μ L for extraction.
Disease Tissue	Grind sample fully with normal saline or PBS, centrifuge at 12,000g for 5-10min. Take 300 μ L of supernatant for sample extraction.
Body Fluid	Take 300 μ L samples to extract directly

be tested Sample Collection & Preservation Kit

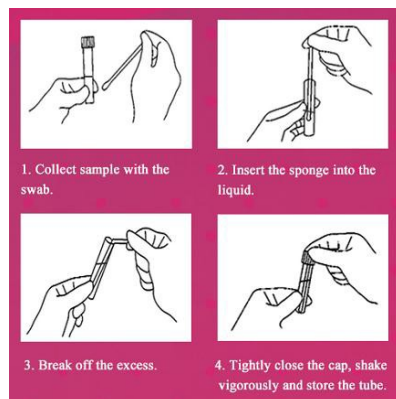
● Usage:

stably preserve viral nucleic acid from various samples for a long time at -20 °C without degradation effectively inhibit DNase/RNase activity

Advantages of be tested Sample Preservative Fluid:

- ✓ *Inactivation: rapid inactivation of sample virus to ensure the safety of medical workers*
- ✓ *Stable: effectively inhibit DNase / RNase activity, transportation at room temperature, long shelf-life*
- ✓ *Convenient: different specifications available, suitable for flexible use in different applications*
- ✓ *Application scenario: stable preservation of nasopharyngeal swab samples, anal swab samples, tissue samples, saliva, whole blood, serum, plasma, alveolar lavage fluid, pleural effusion and other body fluids*

be tested Sample Collection & Preservation Kit



Product	Cat. #	Specs.	Sample Type	Collection Swab
Sample Preservative Fluid	BSC82N1	1mL/tube	for Nasopharyngeal Swabs	included
	BSC82X1-A	2mL/tube	for Nasopharyngeal Swabs	included
	BSC82X1-B	3mL/tube	for Nasopharyngeal Swabs	included
	BSC82X1-C	4mL/tube	for Anal Swabs	included
	BSC82S1	100mL/bottle	for General Use	not included
	BSC82M1	200mL/bottle	for General Use	not included
	BSC82L1	1000mL/bottle	for General Use	not included

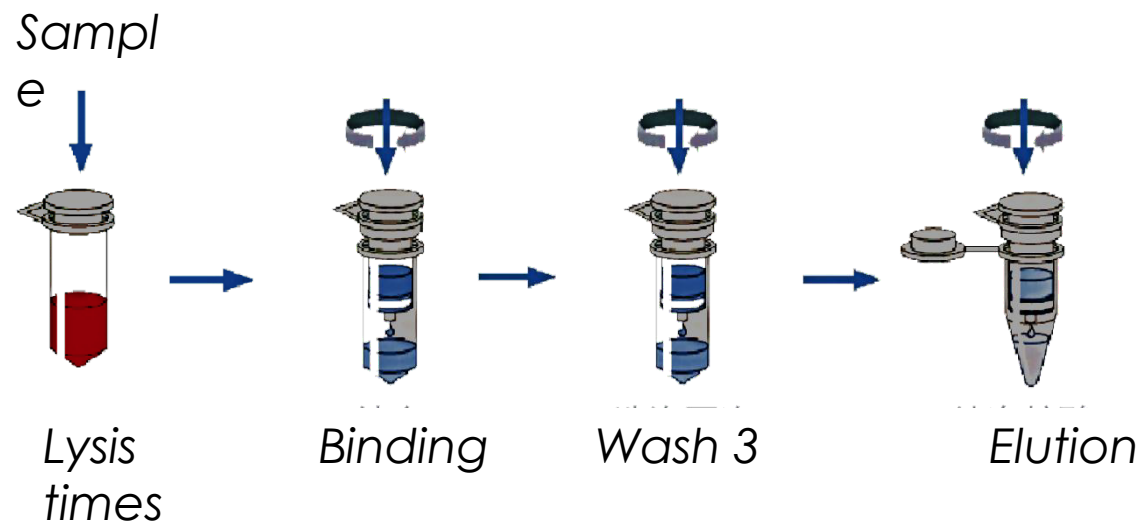
● Storage of Collected Sample in be tested Sample Preservative Fluid

The collected sample in be tested Sample Preservative Fluid can be stored at 2-8 °C for up to one month. For longer time storage please store at -20 °C.

Virus DNA/RNA Extraction

Virus RNA Extraction Option 1:

Biospin Virus DNA/RNA Extraction kit II



**Biospin Virus DNA/RNA
Extraction kit**

**Virus
DNA/RNA**

Advantages of Biopsin Virus DNA/RNA Extraction kit:

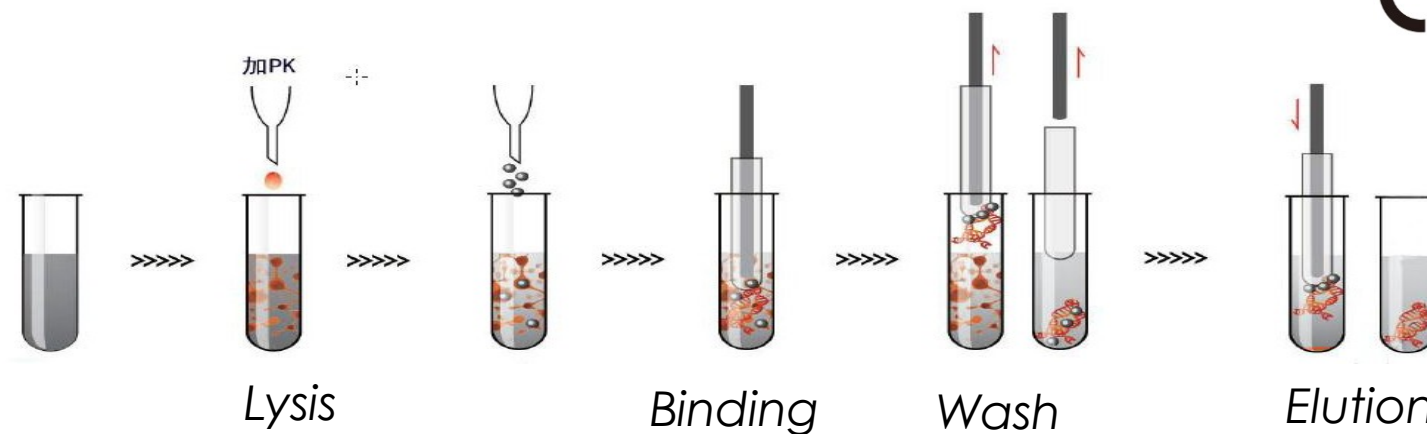
- *without carrier RNA, easy to operate, and cost-effective.*
- *Fast: samples can be extracted in 25 minutes.*
- *New technology: high sensitivity can be achieved without the use of carrier RNA and other sedimentation component.*
- *Stable reagent: can be transported and stored at room temperature for 12 months.*



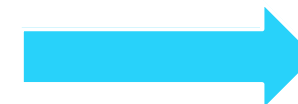
Virus DNA/RNA Extraction

Virus RNA Extraction Option 2:

MagaBio plus Virus DNA/RNA Purification Kit II

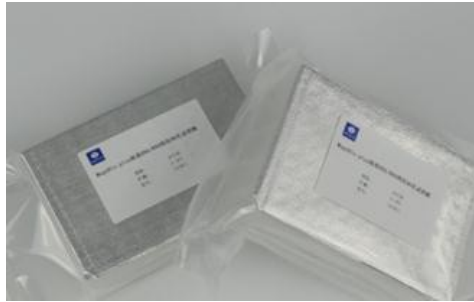


**MagaBio plus Virus
DNA/RNA Purification Kit II**



Virus DNA/RNA

Virus DNA/RNA Extraction



Graph1. MagaBio plus Virus DNA/RNA Purification Kit II



Graph2. BGenePure P Automatic Nucleic Acid Purification System

Experimental Procedure

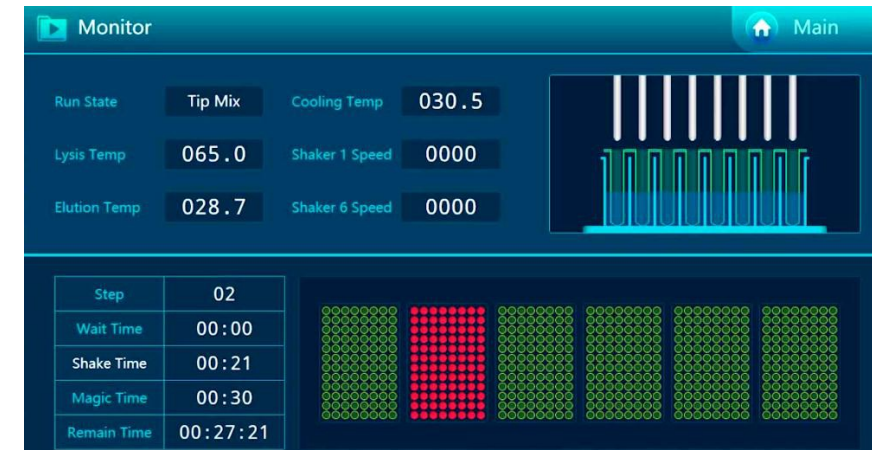
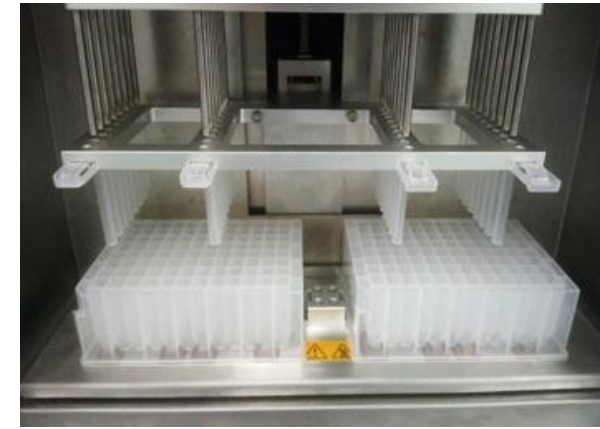
Upend the pre-loaded Magabio kit a few times (at the room temperature) and centrifuge it in a 96-well plate centrifuge before removing the laminating film or shake it by hands in order to avoid some reagent hanging on the tube wall.

Add 300 μ l samples into the first column and the seventh column of 96-well plate, pay attention to avoid cross-contamination during the adding process.

Testing Procedures – DNA/RNA Extraction

- Place 96-well plate in NPA-32P Nucleic Acid Purification System and install the 8-strip tips.
- Start automatic extraction and purification experiment according to the protocol of the kit.

Step	Well	Name	Waiting Time (min : ss)	Mixing Time (min : ss)	Magnet Time (min : ss)	Adso rption	Speed	Volume (μ L)
1	1	Lysis	0 : 0	10 : 0	0 : 0		F	900
2	6	Beads	0 : 0	0 : 15	0 : 30	√	M	200
3	1	Binding	0 : 0	10 : 0	0 : 35	√	F	900
4	2	Wash 1	0 : 0	2 : 0	0 : 30	√	F	700
5	3	Wash 2	0 : 0	1 : 0	0 : 30	√	F	700
6	4	Wash 3	0 : 0	1 : 0	0 : 30	√	F	700
7	5	Elution	2 : 0	5 : 0	0 : 35		F	80
8	6	Discard	0 : 0	0 : 30	0 : 0		S	200



Testing Procedures – PCR Detection

Real-time fluorescent quantitative PCR

Equipment & materials:

- Real Time PCR Detection System
BQuantGene 96/ BGene 96 P/
LineGene K Plus/ LineGene Mini
- Refrigerator (-20°C, -70°C and 4°C)
- Latex or nitrile gloves
- Centrifuge
- Centrifuge tube: 0.5ml, 1.5ml
- Volume: 0.2ml single tube, 8-strip tube PCR, PCR plate
- Test-tube rack
- Mini-centrifuge



Testing Procedures – PCR Detection

be tested provides a complete range of PCR/qPCR consumables:

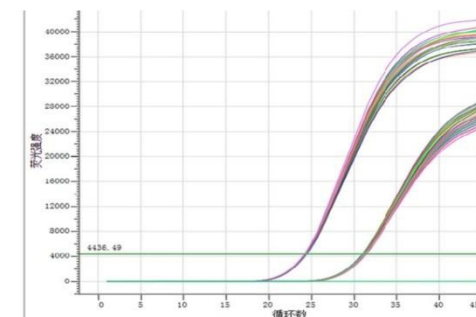
Cat. #	Product	Package
BSH08S1	0.2ml 96-well PCR Plates (half-skirted)	110 pcs/box
BSH09S1	0.2ml PCR 8-Strip Tubes	125 pcs/box
BSH10S1	0.2ml PCR 8-Strip Caps	125 pcs/box
BSH11S1	0.2ml PCR 8-Strip Tubes and Caps	125 pcs/box
BSH12S1	0.2ml PCR Tube	1000 pcs/box
BSH13S1	Sealing Films	10 pcs/box
BSH14S1	Optical Sealing Films for qPCR	10 pcs/box



Testing Procedures – PCR Detection

Real-time Fluorescent Quantitative PCR Detection

CE certified

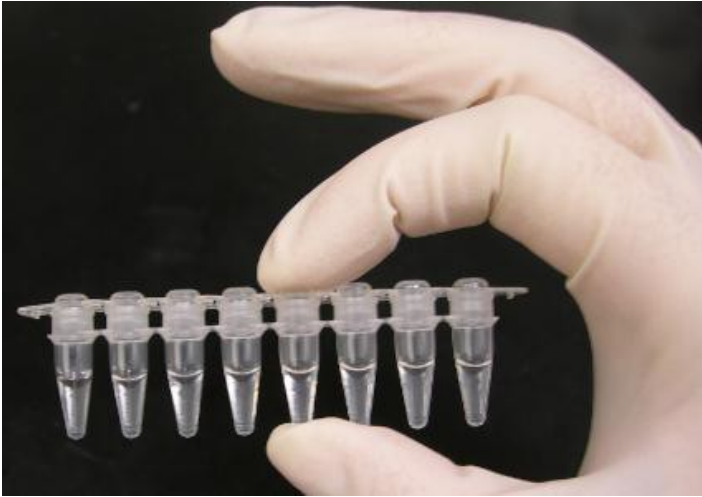


PCR kit:

SARS-CoV-2 Nucleic Acid Detection Kit (Fluorescence RT-PCR) Cat. # BSJ16S1 / BSJ16M1

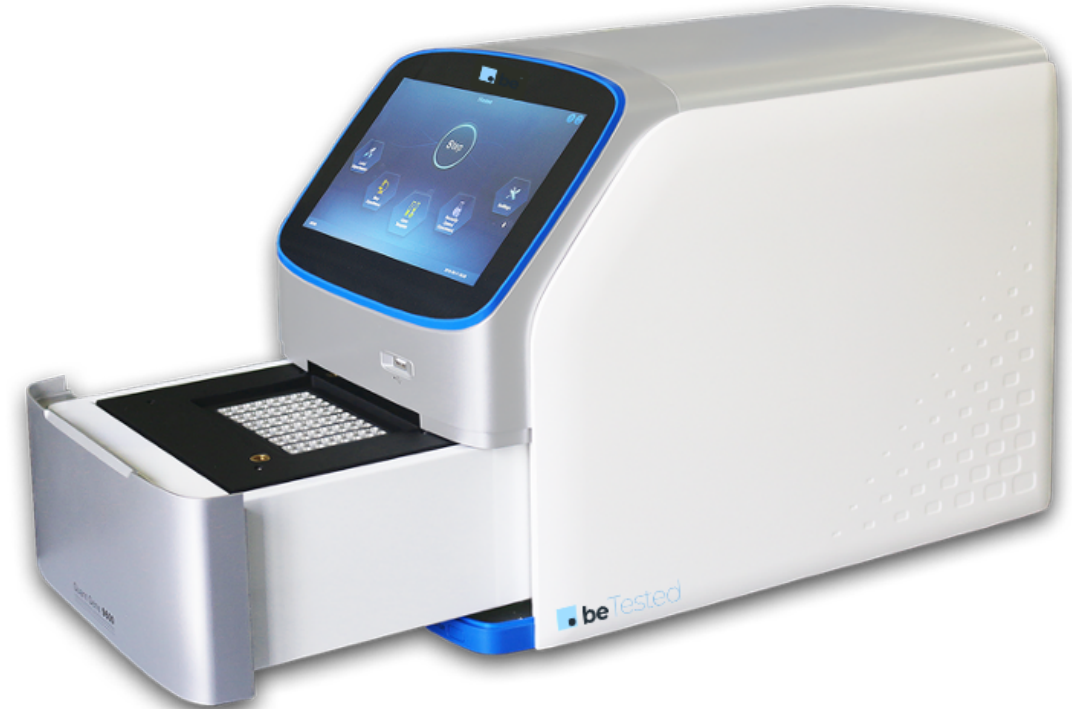
This product selects the Orf1ab and N gene regions of new coronavirus 2019-nCoV, and designs two sets of specific primers and fluorescent probes that cover two sites of the gene at the same time. The two sets of primers and probes can specifically bind to the target sequence. When the RT-PCR amplification reaction is performed, the fluorescent signal can be detected by a full-automatic fluorescent PCR detector to realize real-time online monitoring of the RT-PCR reaction. In order to control the entire extraction and detection process, human β -Globin gene was introduced as a non-competitive internal control during the extraction and detection process.

Testing Procedures – PCR Detection



Adding samples:

1. Transfer the reaction solution into qPCR tubes.
2. Add the negative/positive quality control, nucleic acid solution pending detected.
3. Close the cap & put into qPCR system after centrifuging at the low speed centrifuge. Set up & run the program.

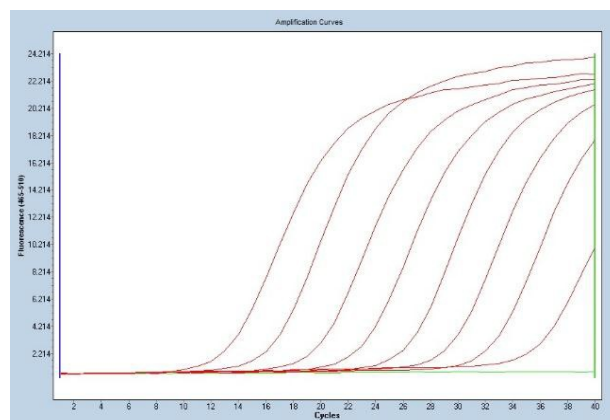


Testing Procedures – PCR Detection

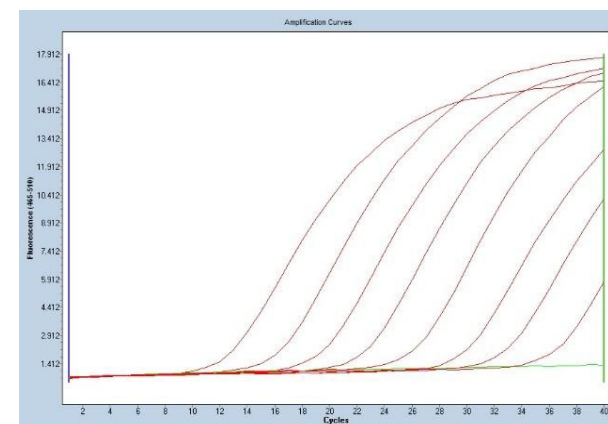
The Effectiveness of Result:

Detectors

Detector	Reporter	Color	Master Mix	Primer	Probe	Supplies	Batch Number	
Clinical specimens	FAM			Target Gene_1				
	HEX			Target Gene_2				
	Cy5			Internal Control				



Sensitivity test of N gene analysis: 10 copies / test

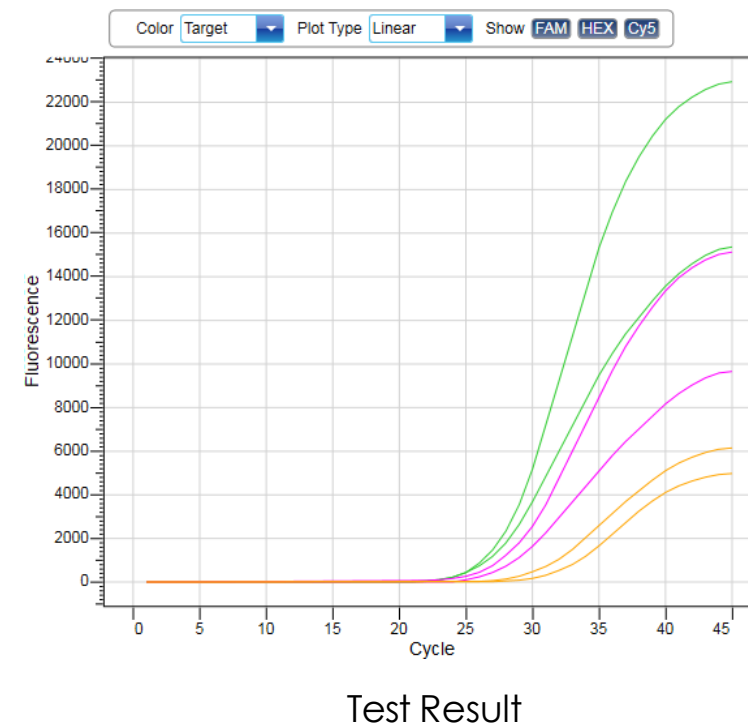


Sensitivity test of ORF1 gene analysis: 10 copies / test

Testing Procedures – PCR Detection

The Effectiveness of Result:

FAM	HEX	CY5	Result Judgment
Ct Value ≤ 40 , with "S" curve		Ct ≤ 35	Positive
40 < Both Ct Value < 45		Ct ≤ 35	It needs to be re-extracted and tested again, and the re-test results are still within this range, and it is judged as positive.
One Ct value < 45, the other one is no Ct value		Ct ≤ 35	Take different samples of the same person to be tested again, and the re-test results are still within this range, and it is judged as positive.
No Ct Value		Ct ≤ 35	Negative



Testing Procedures – PCR Detection (All in one solution)

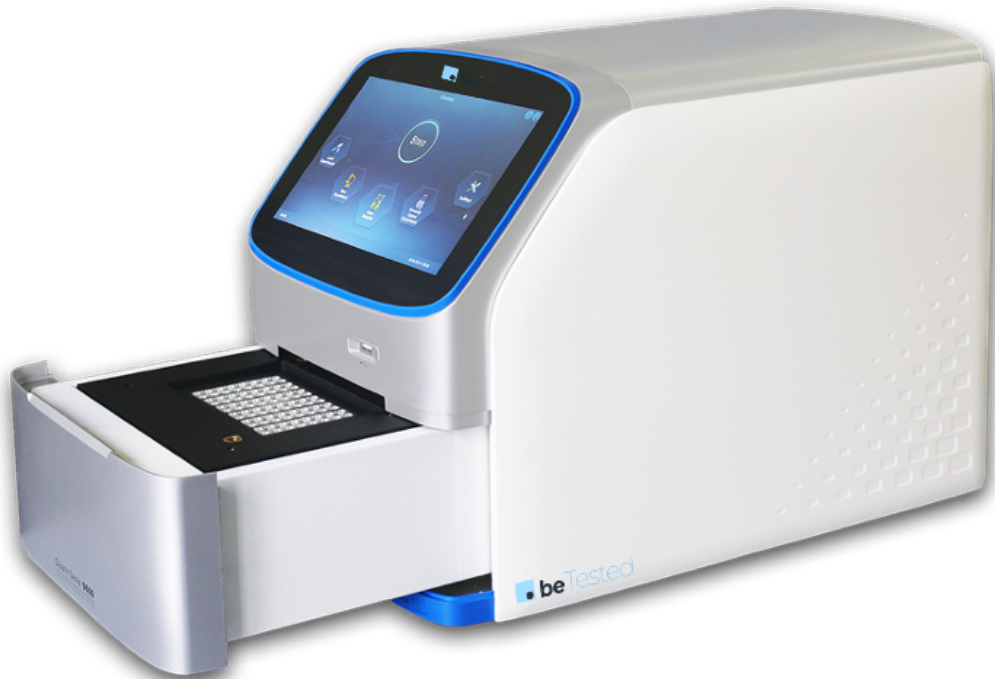


Conclusion of All in one Test Result:

Compliance rate of be tested's kit and reference kit = 100%

36test per hour (per 3 units) x 24 hours = 2304 test x day

Testing Procedures – PCR Detection (All in one solution)



Conclusion of All in one Test Result:

Compliance rate of be tested's kit and reference kit = 100%

96test per hour x 24 hours = 2304 test x day

Thank you!



www.be-tested.com