

# Innovative Technology & Novel Bio-Product

고객의 Unmet Needs를 해결하는 Novel Item으로  
나를 회사를 사회를 행복하게

 **ProteomeTech Inc.**

PROTIA™  
Allergy-Q

PROTIA™  
Food IgG

ImmuneCheck™

ANITIA  
Canine IgE

TriCheck

**AniCheck**

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**13485:2016**





# ***ProteomeTech Inc.***

**Innovative Technology & Novel Bio-Product**

[www.proteometech.com](http://www.proteometech.com)

## **PRODUCT LIST**

Allergy test "PROTIA Allergy - Q"
Food Intolerance test "PROTIA Food IgG"
Immune Health monitoring kit "ImmuneCheck"
Novel concept of Pregnancy test "TriCheck"
Animal Allergy test "ANITIA Canine IgE"
Total IgE rapid test for Animal
Bovine colostrum IgG concentration test

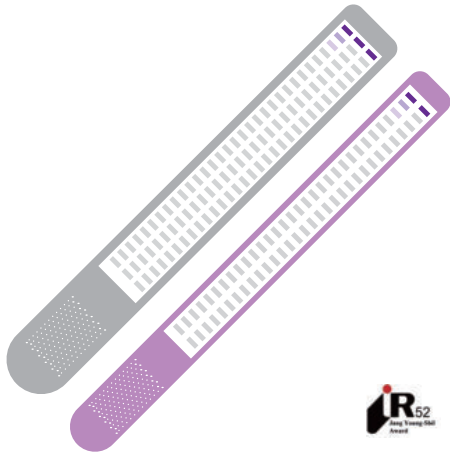
# Allergy Screening Test

Identify the cause of **YOUR ALLERGY!**

The pain can be reduced once you know the cause.

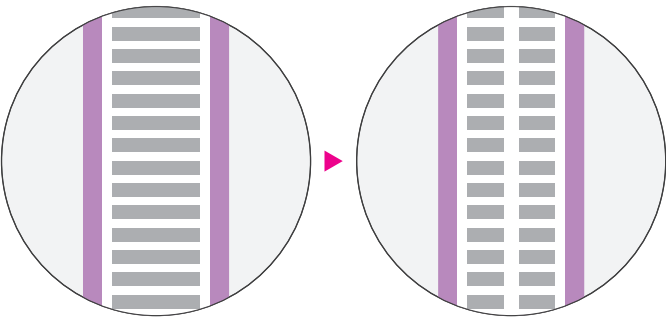
## PROTIA™ Allergy-Q

107 allergens in 1 panel



### Parallel lines array diagnostic technology

#### Compact diagnostic panel



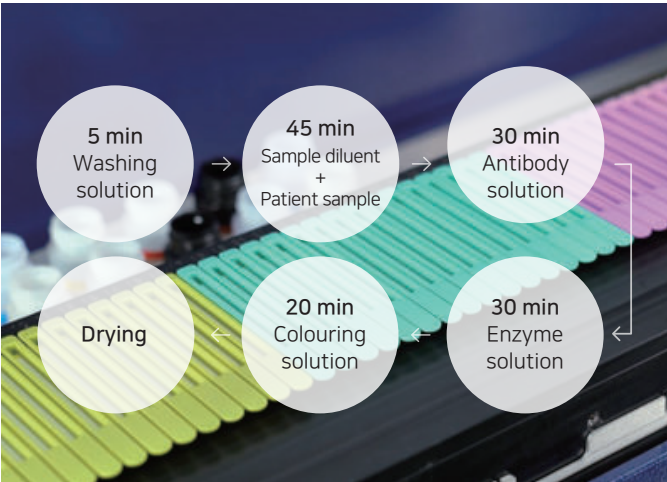
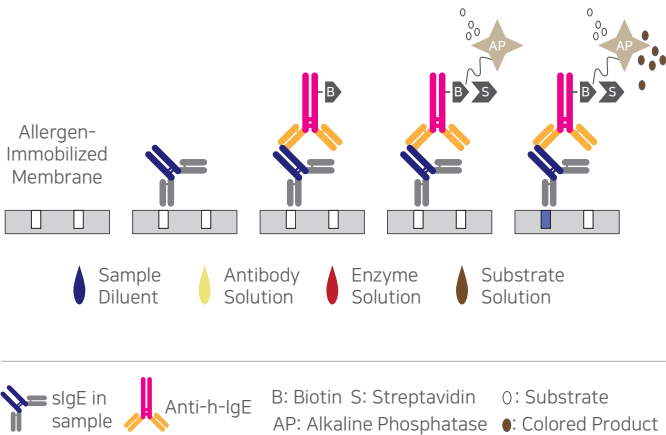
- Parallel lines array(PLA) multiplex biochip technology

- Increase efficiency of test up to 2~ 3 fold  
(Patent: KR 1570327)

#### Type of panel

96 lines Panel : 107 specific allergens including Total IgE		
PROTIA <b>Allergy-Q 96</b>	M panel	Total 107 allergens
Over 63 allergens including total IgE		
PROTIA <b>Allergy-Q 64</b>	Inhalant panel	Total 64 allergens
PROTIA <b>Allergy-Q 64</b>	Food panel	Total 72 allergens
PROTIA <b>Allergy-Q 64</b>	S panel	Total 63 allergens
PROTIA <b>Allergy-Q 64</b>	Athopy panel	Total 62 allergens
50 lines Panel : 44 specific allergens including Total IgE		
PROTIA <b>Allergy-Q</b>	Athopy panel	Total 48 allergens

### Action Mechanism



# Allergy Screening Test

## Parallel lines array diagnostic technology



- The World's largest number of allergen test
- Small serum volume for testing (64 Line: 50µl, 96 Line: 100µl)
- Compact diagnostic panel
- Increased efficiency and affordability
- On strip calibration
- Multiple panels



## Instruments for ProteomeTech's panel products



**Q-STATION ELITE**  
Fully automatic system

- 40~48 test in one process
- Testing different panels at once
- Controlling several Q-STATION ELITE with one PC



**Q-Processor**  
Automatic processor

- Integrated PC
- 10 tests in one process



**Q-Smart**  
Reading system

- Safe and Easy handling
- Multiple language available
- 10 test in one process
- Compact size & Light weight



## Valuable and Informative report format

ProteomeTech Inc. Medical report PROTIA™ Allergy-Q			
PROTIA Allergy-Q 96M			
Sample Code: 101		Note:	
Last name:		Group:	
Name:		Session:	
Date of birth:		Examination: 2019-03-13 09:38:13	
Sex:			
No.	Name	Code	Result
1	Total IgE	HyE	142 -
2	House dust	h1	<0.15 0
3	D. pteromyximus	g1	<0.15 0
4	D. farinae	g2	0.02 1
5	Cat	w1	<0.15 0
6	Dog dander	w2	1.57 2
7	Egg white	f1	<0.15 0
8	Milk	f2	<0.15 0
9	Codfish	f3	<0.15 0
10	Peanut	f4	3.80 3
11	Soy bean	f5	<0.15 0
12	Wheat	f6	<0.15 0
13	Almond	f7	<0.15 0
14	Birch	f8	<0.15 0
15	Oak	f9	<0.15 0
16	Common ragweed	w1	<0.15 0
17	Japanese hop	w2	0.17 0
18	Mugwort	w3	<0.15 0
19	A. alternata	m1	<0.15 0
20	C. herbarum	m2	<0.15 0
21	A. fumigatus	m3	<0.15 0
22	Olive	m4	<0.15 0
23	Shrimp	m5	<0.15 0
24	MacKenzie	m6	1.94 2
25	Cultivated rice	g12	0.75 2
26	CDD	g14	<0.15 0
27	Peanut	g5	<0.15 0
28	Apple	g6	<0.15 0
29	Banana	g7	<0.15 0
30	A. sirs	g10	0.49 1
31	T. putrescentiae	g12	<0.15 0
32	Grass mix	g11	1.16 2
33	Bermuda grass	g2	<0.15 0
34	Timothy grass	g5	1.96 2
35	R. nidulans	m1	<0.15 0
36	C. albicans	m5	<0.15 0
37	Hazel	f4	<0.15 0
38	Clive	g5	<0.15 0
39	Maple leaf sycamore	f11	0.27 0
40	Willow	f12	<0.15 0
41	Cottonwood	f14	0.17 0
42	White ash	f15	<0.15 0
43	White pine	f16	<0.15 0
44	Japanese cedar	f17	<0.15 0
45	Acacia	f19	<0.15 0
46	Chrysanthemum	w7	<0.15 0
47	Candelion	w8	<0.15 0
48	Plantain	w9	<0.15 0
49	Russian thistle	w11	<0.15 0
50	Valerian	w12	<0.15 0
51	Common pigweed	w14	<0.15 0
52	Hevea latex	m2	<0.15 0
53	Bee venom	i1	<0.15 0
54	Wasp venom	i3	<0.15 0
55	Muscle Rat	g17	<0.15 0
56	Protein	g10	<0.15 0
57	Chicken egg	g1	<0.15 0
58	Wool, sheep	w1	<0.15 0
59	Hemp	g4	<0.15 0
60	Horse	g3	<0.15 0

RANGE OF INTERPRETATION

Result	Class	Description
<0.34	0	Not found
0.35-0.59	1	Weak
0.60-0.99	2	Moderate
1.00-1.99	3	Moderately strong
2.00-4.99	4	Strong
5.00-9.99	5	Very strong
>10.00	6	Extremely strong

g1 (House mix), total serum, total IgE, serum used test panel  
g1 (House mix), total serum, total IgE, serum used test panel  
g1 (House mix), total serum, total IgE, serum used test panel  
g1 (House mix), total serum, total IgE, serum used test panel

- Type of allergen panel
- Sample information
- Analyst's comments
- Allergen information
- Photo of the test panel
- IgE concentration (IU/mL, class)
- Interpretation of the class (Classification of specific IgE concentration)

## PROVEN Quality



Accuracy : 96.0%  
Specificity: 96.6%  
Sensitivity: 86.9%

\*High agreement with the gold standard product



# Food Intolerance Screening test

Do you often get sick for **no reason**?

Check out the cause with simple blood test!



Immunoblot assay for the quantitative detection of food specific IgG antibodies in human serum

- 1µl of serum volume for testing
- Compact diagnostic panel
- On-strip calibration
- Line blot immunoassay
- Valuable and informative report format
- Applicable to Automatic & Semi-Automatic Instrument



## What is Food Intolerance?

Unlike typical IgE allergy, IgG-mediated allergy can occur a few hours or days after food intake, and symptoms vary, making it difficult to identify the cause. If you have abnormal symptoms of the gastrointestinal tract such as constipation, stomachache, etc. or various symptoms that can not figure out the cause, you should consider food allergy.

Through PROTIA Food IgG, identify the foods that do not fit, and stay healthy!

## Hypersensitivity

	Food Intolerance	Acute Allergy	
	<div>Response after 2 ~ 72hr of food intake</div>	<div>Immediate reaction &amp; Anaphylaxis Shock</div>	
	<div>↓</div>	<div>↓</div>	
	<div>Inflammatory reaction of IgG against particular food</div>	<div>Histamine reaction of IgE against allergen</div>	
<div>   </div>	<div>PROTIA™ Food IgG 60</div>	<div>PROTIA™ Allergy-Q</div>	<div>   </div>

IgG-mediated chronic food intolerance test  
Over 60 food allergens in one panel PROTIA™ Food IgG



# Novel concept of Pregnancy test

## TriCheck

Solution for False Negative with additional line (T2) specially loaded in TriCheck



### What is hCG bcf?

There is a multitude of hCG forms found in serum and urine due to the degradation by the enzyme. One of them, hCG  $\beta$ cf, is well known for disturbing the detection of intact hCG hormone, which will bring out false negative, and their hormone concentration is known to five times higher!

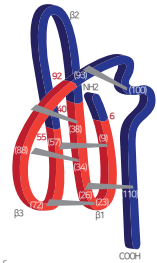
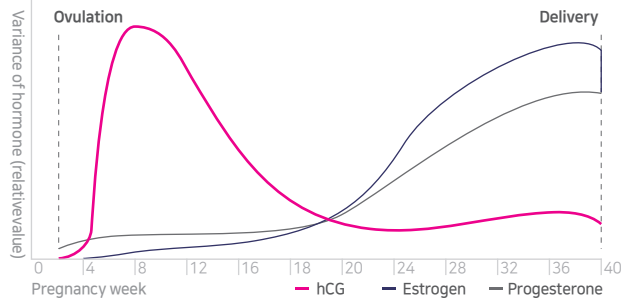


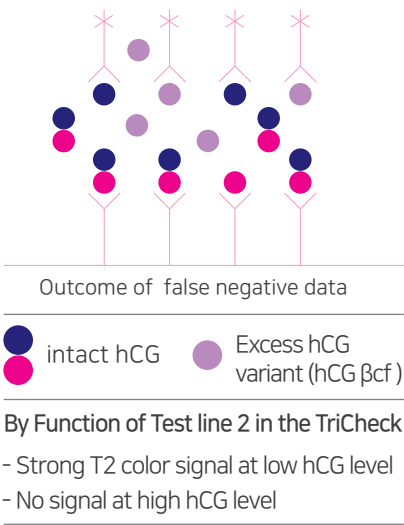
Figure Reference.  
David A. George, "hCG  $\beta$  Core Fragment Interference in Total hCG Assays"  
SCRIPPS LABORATORIES, INC.

## TriCheck

### Reading the result

Pregnancy Status	Existing Diagnostic Kit	TriCheck
Non-conception	 Negative	 Negative
Conception (High conc. Of hCG & hCG $\beta$ cf)	 Positive	 Positive
	 False Negative	 Positive
	T C	T1 C T2

### Limit of Sandwich method immuno-assay



## TriCheck Midstream

For general public & pharmacy



## TriCheck-C Cassette

For clinic & hospital



## TriCheck combo

For clinic & hospital

Providing quantitative result using urine and serum



# Products for Animal

## Allergy test for Animal, ANITIA Canine IgE



Animal allergy screening test for dog

Detecting 66 allergens With 50 ul of serum

- Requires small volume of serum (50ul)
- 66 specific IgE test
- Line blot immunoassay : An accurate and reproducible test
- On strip calibration



# AniCheck

## Rapid test for Animal, AniCheck

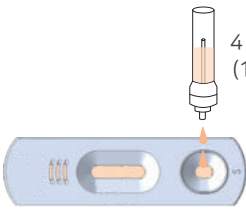
Total IgE Rapid test for dog and cat



AniCheck™  
Canine Total IgE



AniCheck™  
FelineTotal IgE



- ✓ Small volume of sample
- ✓ Simple method
- ✓ Accurate result

Immediate allergy sensitivity test  
Verification of parasite infection history after adoption  
Check tIgE levels after allergy treatment

- Total IgE quantitative test in 15 minutes
- Assay range: 5 - 150 µg/mL (Canine) / 5 - 350 µg/mL (Feline)

Measurement of IgG concentration in bovine colostrum



AniCheck™  
Bovine IgG - Colostrum

Best colostrum selection!



Calves are Immune-deficient when they are born.  
Feed your calves with appropriate colostrum  
containing high concentration of IgG to save them!

- Requires small volume of colostrum (5ul)
- Total IgG quantitative test in 10 minutes simple method.
- Quantitative data with Q-Reader  
semi-quantitative data with color referenc chart
- Assay range : 2 ~ 140mg/mL



# KOVcheck

## COVID-19 IgG/IgM



Protect yourself from serious infection with highly specific KOVcheck



COVID-19 (Corona Virus disease 2019) is the respiratory infectious disease caused by SARS-CoV-2 that has not been previously identified in humans. WHO declared this beta-coronavirus as a pandemic disease being regarded as spreading all around the world.

**Immunochromatographic assay  
for detection of SARS-CoV-2 specific  
human Immunoglobulin G and Immunoglobulin M.**

Test time	Within 15 minutes
Specimen	Whole blood/ Serum/ Plasma
Storage temperature	2-30°C/ 36-86°F
Packaging size	40 Tests/Kit
Shelf life	12 months

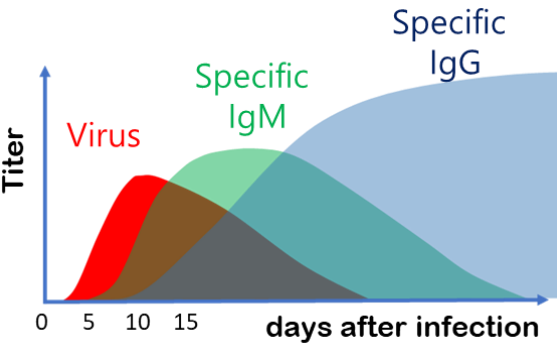
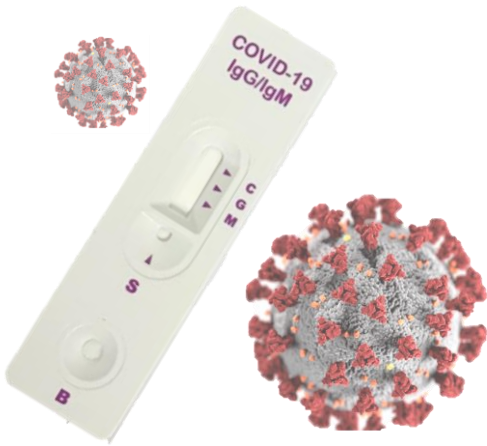


### Ordering Information

Cat. No.	Product name	Packaging size
PKOV0314	KOVcheck COVID-19 IgG/IgM	40 Tests/Kit

### Key Features

- Rapid Test for SARS-CoV-2 antibodies within 15 minutes.
- Available for venous whole blood, serum or plasma.
- Excellent clinical efficacy.



Detection of COVID-19 specific IgM antibody indicates a recent exposure to COVID-19, whereas detection of COVID-19 specific IgG antibody indicates a later stage of infection. So, this combined antibody test could provide information on the stage of COVID-19 infection.



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# KOVIcheck COVID-19 IgG/IgM

Immunochromatographic assay for detection of SARS-CoV-2 specific human Immunoglobulin G and Immunoglobulin M

CE IVD REF PKOV0314

 **ProteomeTech Inc.**

## KIT CONTENTS



Test Cassette



Buffer bottle



Dropper

## TEST PROCEDURE

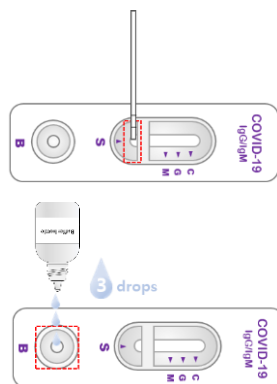
### Serum and plasma sample:

Drop 10  $\mu$ L sample into sample window (S) using a dropper.

### Venous blood sample:

Drop 20  $\mu$ L sample into sample window (S) using a dropper.

Inject 3 drops of buffer into buffer window (B) using a buffer bottle.



For venous blood  
20  $\mu$ L  
For serum and plasma  
10  $\mu$ L



**Read test result  
in 10-15 minutes.**

## Performance agreement results of clinical data

### ① Performance agreement of IgM

- Positive agreement (PA): 96.7%, 95% CI (92.1~100.0%)
- Negative agreement (NA): 100.0%, 95% CI (100.0~100.0%)
- Overall agreement: 98.2%
- Positive predictive value (PPV): 100.0%
- Negative predictive value (NPV): 96.2%

### ② Performance agreement of IgG

- Positive agreement (PA): 93.3%, 95% CI (87.0~100.0%)
- Negative agreement (NA): 98.0%, 95% CI (94.1~100.0%)
- Overall agreement: 95.5%
- Positive predictive value (PPV): 98.2%
- Negative predictive value (NPV): 92.5%

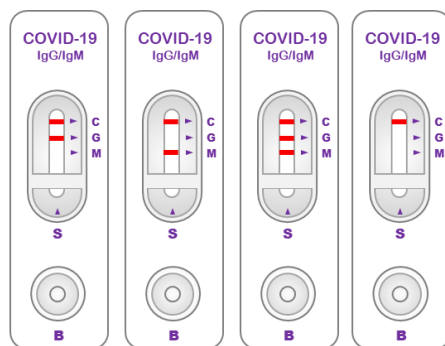
### ③ Performance agreement of IgM and IgG

- Positive agreement (PA): 96.7%, 95% CI (92.1~100.0%)
- Negative agreement (NA): 98.0%, 95% CI (94.1~100.0%)
- Overall agreement: 97.3%
- Positive predictive value (PPV): 98.3%
- Negative predictive value (NPV): 96.1%

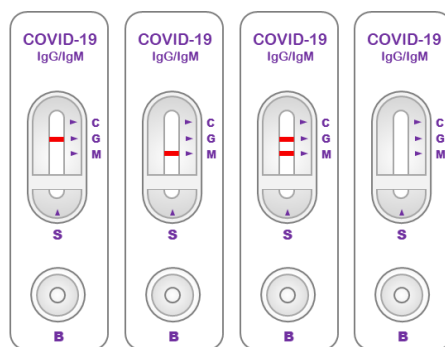
## INTERPRETATION OF TEST RESULT

### Positive

### Negative



### Invalid



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**ProteomeTech Inc.**

2020/08/28

Protect yourself from silent infection by highly specific GENE<sup>®</sup>dania COVID-19 qRT-PCR



## GENEdania COVID-19 qRT-PCR

### Key Features

- Detects three COVID-19 genes  
: **Orf1ab**, **N** and **E** genes and endogenous control gene
- Full compliance with the WHO Guidelines
- Less than 2 hours from RNA to results on most qPCR machines
- One tube and one step real-time RT-PCR assay Kit
- UDG (Uracil-DNA Glycosylase) to eliminate the carry-over contamination during the RT-PCR assay

The **GENEdania COVID-19 qRT-PCR** is an *in vitro* diagnostic (IVD) one step real-time RT-PCR kit for the detection of nucleic acid from SARS-CoV-2. It targets the Orf1ab gene and the N gene for SARS-CoV-2 (COVID-19), specifically. The E gene for beta coronavirus and endogenous control gene for kit verification are also included in a single tube. All four genes are amplified simultaneously in one tube and give the accurate results less than 2 hours from purified COVID-19 RNA samples. This kit can be applied to the sample from upper respiratory specimens e.g. nasopharyngeal, oropharyngeal swab and lower respiratory specimens, e.g. sputum, from individuals with signs and symptoms of COVID-19.

### Ordering Information

Cat. No.	Product name	Packaging size
PGRP0011	GENEdania COVID-19 qRT-PCR	100 Tests/Kit

### Kit Components

Name	Volume	Quantity
GENEdania 2x qRT-PCR Premix	1,000 $\mu$ L	1 E.A.
GENEdania Primer/Probe mixture	500 $\mu$ L	1 E.A.
GENEdania Positive control	50 $\mu$ L	1 E.A.
GENEdania Negative control	100 $\mu$ L	1 E.A.

### Running Program

STEPS	Temp.	Time	Cycle
Reverse transcription	50°C	20 min	1
Pre-denaturation	95°C	5 min	1
Denaturation	95°C	15 sec	45
Annealing/ Extension/ Detection	58°C	60 sec	



[ Set on Threshold and Baseline ]

Target	Threshold	Baseline	
		Begin	End
Orf1ab gene	300	3	15
N gene	300	3	15
E gene	300	3	15
I.C.*	300	3	15

\* I.C.: Internal Control

[ Result Interpretation ]

#	Orf1ab	N	E	I.C.	Assay Result
1	≤ 40	≤ 40	≤ 40	≤ 35	COVID-19 Positive
2	≤ 40	≤ 40	U.D.*	≤ 35	
3	≤ 40	U.D.*	≤ 40	≤ 35	
4	U.D.*	≤ 40	≤ 40	≤ 35	
5	≤ 40	U.D.*	U.D.*	≤ 35	Repeat the test (COVID-19 Positive if Orf1ab ≤ 40)
6	U.D.*	≤ 40	U.D.*	≤ 35	Repeat the test (COVID-19 Positive if N ≤ 40)
7	U.D.*	U.D.*	≤ 40	≤ 35	Beta coronavirus
8	U.D.*	U.D.*	U.D.*	≤ 35	Negative
9	U.D.*	U.D.*	U.D.*	U.D.*	Invalid (re-test)

\* U.D.: Undetermined

[ Ct. value for Positive and Negative controls ]

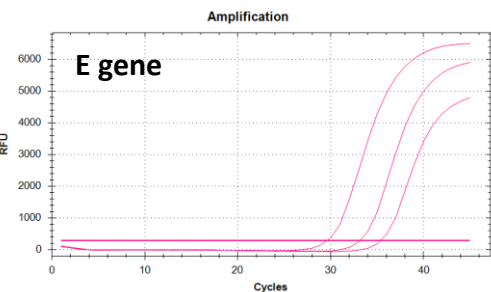
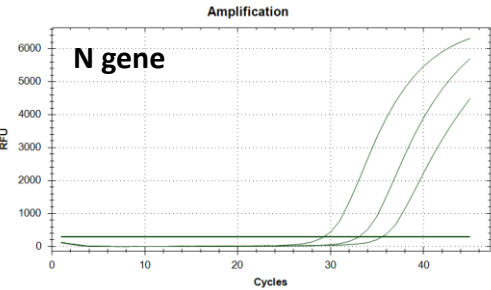
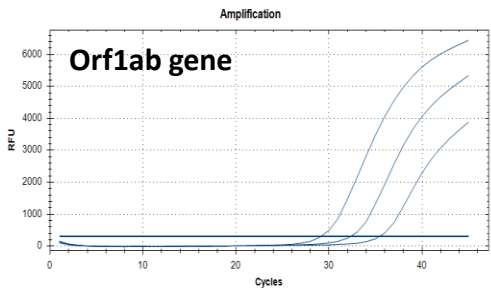
Control	FAM (Orf1ab)	HEX (N gene)	CAL Fluor Red 610 (E gene)	Cy5 (I.C.* )
Positive Control	≤ 35	≤ 35	≤ 35	≤ 35
Negative Control	No Ct.	No Ct.	No Ct.	No Ct.

\* I.C.: Internal Control

[ Analytes ]

Target	Fluorescence	Detection wavelength (nm)	
		Excitation	Emission
Orf1ab gene	FAM	494	518
N gene	HEX	538	554
E gene	CAL Fluor Red 610	590	610
I.C.*	Cy5	649	666

\* I.C.: Internal Control



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