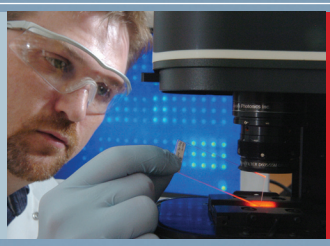
NANOBIOSYS

UltraFast • LabChip • Compact • Economic • Easy-to-Use



www.**nanobiosys**.co.kr

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Sung-Woo Kim, Ph.D., CEO of NanoBioSys Inc. received the Minister's Award from Minister of Ministry of Knowledge Economy on Dec. 8, 2011.

World's Leading Company in Molecular Diagnostics.

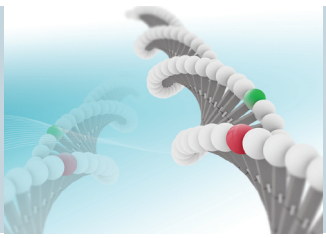
Since it was founded in 2009, NanoBioSys Inc. has focused on the development of the extremely fast real-time PCR for quantitative analysis of infectious diseases and food pathogens. Recently, our company has generated the "UltraFast LabChip Real-time PCR G2-3 System," combining Lab-on-a-Chip (LabChip) technology with real-time PCR technology. We can impressively reduce its weight to 5.5 kg and its speed to 15 min to perform 30 cycles of real-time PCR.

In addition, we have significantly reduced its running cost by using an economical disposable plastic LabChip. This can be applied to several fields such as biomedical research, human disease studies, food and animal pathogen analyses, and environmental bio-contamination diagnoses.

We have also developed an UltraFast LabChip Sample Prep system, which greatly reduces sample prep time (10-15 min to isolate DNA/RNA from 12 samples), size (to 5.6kg), and running costs.

Based on these technology renovations, we received the Technology Award from the Korea BioChip Association on November 3, 2011 and the Minister's Award from the Ministry of Knowledge Economy on December 8, 2011.

We will continue to challenge the creative renovation in molecular diagnostic fields.


History

2009

02
Established NANOBIOSYS INC.

07
Relocated Headquarters in Seoul, Korea.

12
Contracted a Licensing Agreement with ETRI

2010

03
- Acquired ISO 9001-2008 Certification.
- Acquired ISO 13485 Certification.
- Contracted a Licensing Agreement with MIT

06
Selected as the Technology Innovation Award by The Small and Medium Business Administration

12
Selected as the Industrial Path breaking Technology Award by The Ministry of Knowledge Economy (MKE)

2011

06
Selected as the Technology Industrialization Award by The Ministry of Knowledge Economy (MKE)

12
Received the Minister's Award from Minister of The Ministry of Knowledge Economy (MKE)

2012

04
Acquired CE Certification.
– UltraFast LabChip Real-time PCR G2-3

06
Selected as the Industrial Fusion Technology Award by The Ministry of Knowledge Economy (MKE)

Certification

ISO 9001: 2008

ISO 13485: 2003

CB Certificate

CE Certificate

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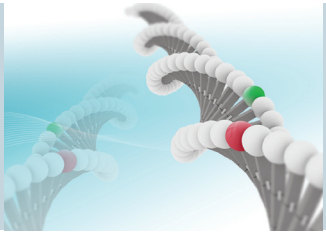
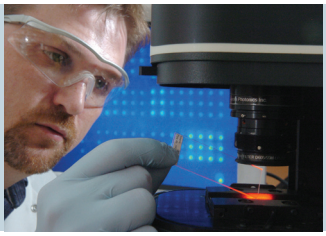
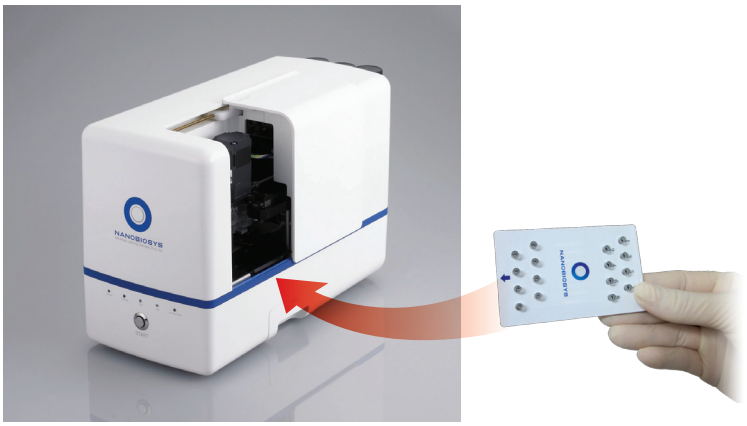
NANOBIOSYS
NANOBIOSYS
ULTRA FAST REAL TIME PCR
POWER
RUN
WARNING
START
Staphylococcus aureus Kit
Vibrio cholerae Kit
Vibrio vulnificus Kit
Listeria monocytogenes Kit
Yersinia enterocolitica Kit
Salmonella spp. Kit
1 3 5 7
2 4 6 8
NANOBIOSYS


UltraFast LabChip Sample Prep G2 & Real-time PCR G2-3 Systems

UltraFast LabChip Sample Prep G2 System



10~15min for DNA/RNA Isolation

Features

- Rapid isolation of DNA / RNA
- Portable size : 5.6kg
- Plastic LabChip
- Easy-to-use
- High efficiency
- Competitive price / running cost

UltraFast LabChip Real-time PCR G2-3 System

15min for 30 cycles of Real-time PCR

Features

- Ultra fast quantitative analysis
- Portable size : 5.5kg
- Plastic LabChip / μ Well chip
- Easy-to-use
- User-friendly software
- High sensitivity and specificity
- Competitive price / running cost

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UltraFast LabChip Sample Prep G2 System

▶ Product Description

UltraFast LabChip Sample Prep G2 System consists of a DNA/RNA isolation machine and a plastic LabChip. It takes 10-15 min to isolate nucleic acid from 1-12 samples.

UltraFast LabChip Sample Prep G2 / LabChip

▶ Features

- Rapid isolation of DNA / RNA
- Portable size : 5.6kg
- Plastic LabChip
- Easy-to-use
- High efficiency
- Competitive price / running cost

▶ Specifications

Dimension (W×D×Hmm)	165 × 325 × 225
Weight (kg)	5.6
Sample capacity size (ul)	50
Input voltage (V)	90 - 264
Input Frequency (Hz)	47 - 63
Input Power (W)	120 W
Temperature range (℃)	40 - 110
Temperature accuracy (℃)	± 0.3
Operating temperature (℃)	15 - 50
Operating humidity (%)	10 – 70, Non-condensing

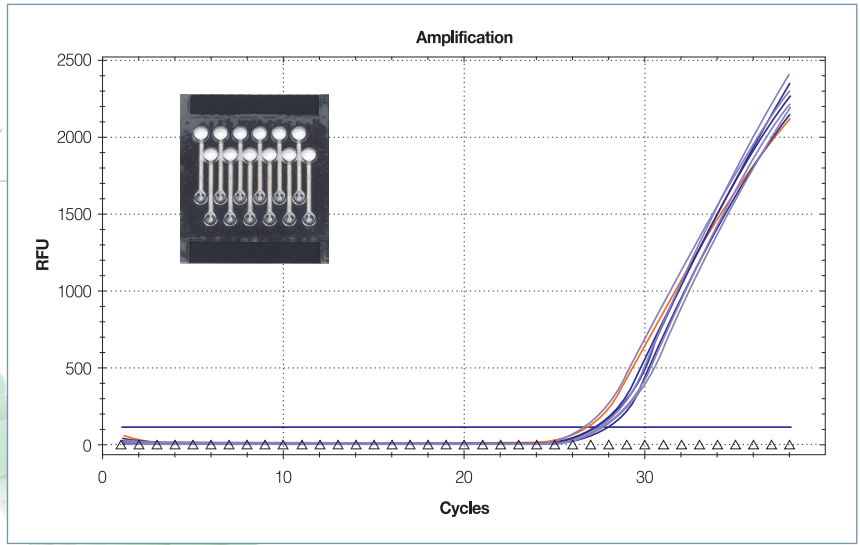


▶ Assay Procedure

RNA/DNA Extraction

Insert LabChip into UltraFast
LabChip Sample Prep G2 machine.

▶ Test with Salmonella enterica



No.	Method	Template	Ct Value	Yield(%)
1		No Template	-	-
2	Prep by Spin Column	Reference	27.2	100
3	UltraFast Labchip Sample Prep G2/ LabChip	1 Ch	27.7	70.5
4		2 Ch	27.8	65.8
5		3 Ch	27.3	93.3
6		4 Ch	27.3	93.3
7		5 Ch	27.3	93.3
8		6 Ch	27.3	93.3
9		7 Ch	27.4	87.0
10		8 Ch	27.9	61.4
11		9 Ch	27.3	93.3
12		10 Ch	27.4	87.0
13		11 Ch	27.5	81.1
14		12 Ch	27.7	70.5
		AVG.	27.4	82.5
		STD.	0.2	
		CV(%)	0.8	

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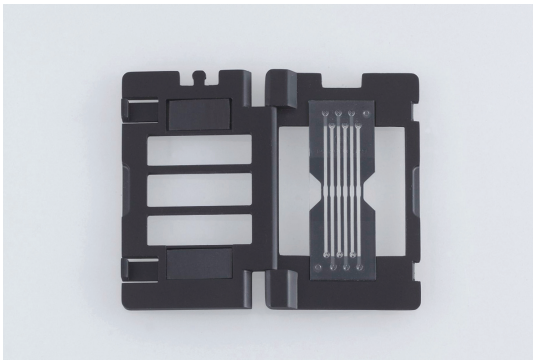
UltraFast LabChip Real-time PCR G2-3 System

Product Description

The UltraFast LabChip Real-time PCR G2-3 System consists of a real-time PCR machine, a plastic LabChip, and a LabChip case. It takes 15 min to perform 30 cycles of real-time PCR. 6, 10, 18, 48, 96 samples can be analyzed at a time.



UltraFast LabChip Real-time PCR / LabChip

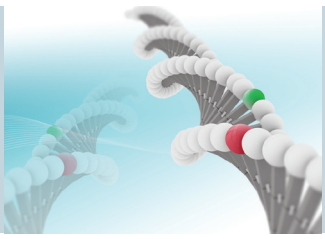
Features

- Ultra fast quantitative analysis
- Portable size : 5.5kg
- Plastic LabChip / μWell chip
- Easy-to-use
- User-friendly software
- High sensitivity and specificity
- Competitive price / running cost

Specifications

Dimension (W×D×Hmm)	212 × 256 × 232
Weight (kg)	5.5
Sample capacity size (ul)	5 - 20
Input voltage (V)	100 - 250
Input Frequency (Hz)	50 - 60
Input Power (W)	100 W
Temperature range (℃)	40 - 110
Temperature accuracy (℃)	± 0.3
Operating temperature (℃)	15 - 40
Operating humidity (%)	20 - 70
Communication	USB, Windows 2000 / XP / 7
Light Source	Power LED
Wave length (λo, nm)	490 - 550
Light Power (W)	5
Detection Sensor	CMOS Sensor
Excitation / Emission Filters (λo, nm)	Band Pass Filter

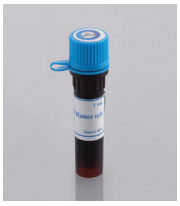




▶ Assay Procedure: Real-time PCR

Prepare real-time PCR mixture

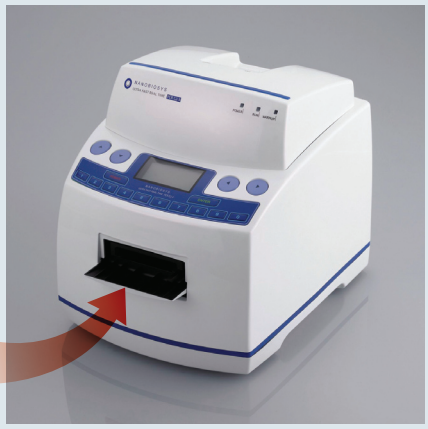
DNA,
Primers, & Probes +



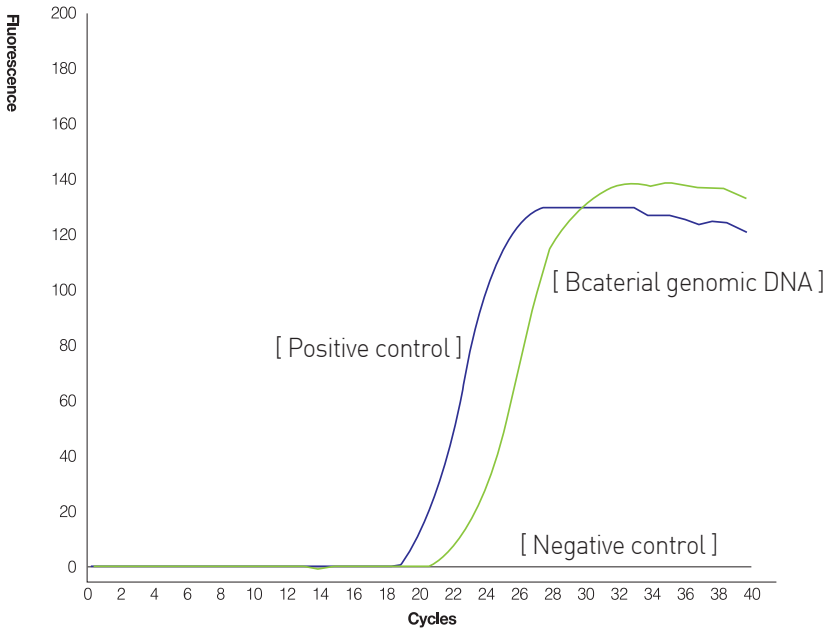
UltraFast LabChip
Real-time PCR
Master Mix

15 min / 30 cycles

Insert LabChip case
into Real-time PCR machine



▶ Test with Bacterial genomic DNA



Amplification Curve by Real-time PCR

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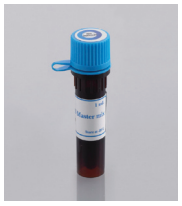
▶ Assay Procedure: One-step RT & Real-time PCR

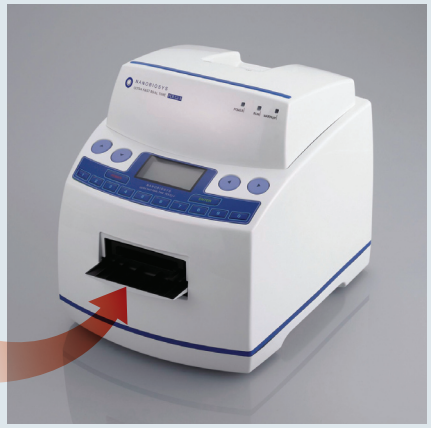
Prepare One-step RT & Real-time PCR mixture

DNA,
Primers, & +
Probes



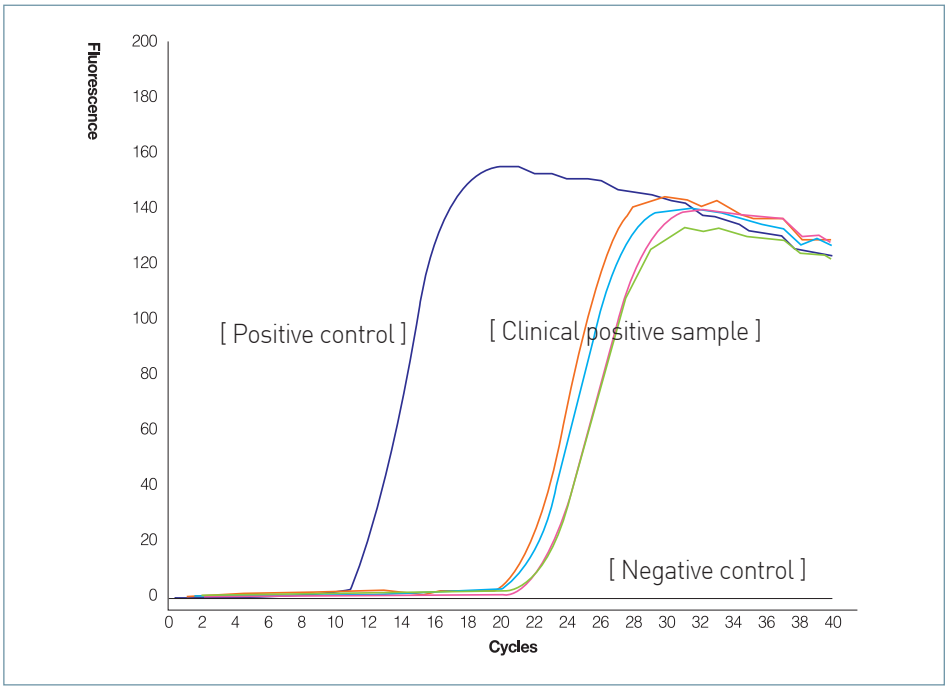
UltraFast LabChip
One-step RT
& Real-time PCR
Master Mix

RT : 5 min
Real-time PCR : 22 min/40 cycles



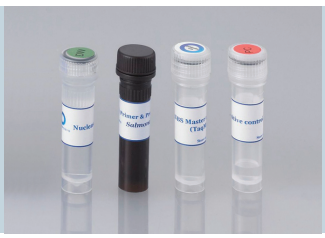
Insert LabChip case
into Real-time PCR machine

▶ Test with viral RNA of New Influenza A Virus



Amplification Curve by Real-time PCR



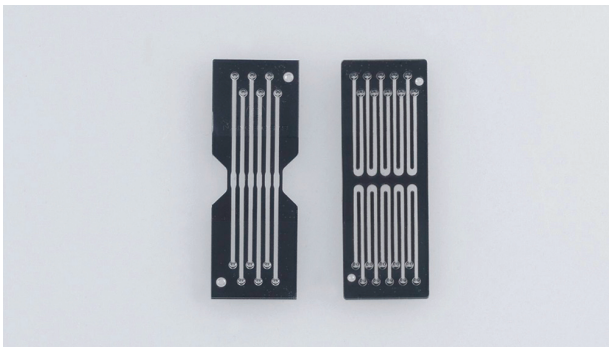


UltraFast LabChips

LabChip for UltraFast LabChips Sample Prep G2

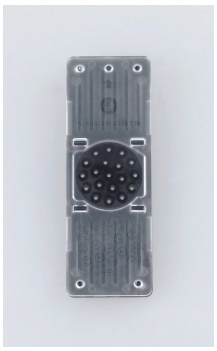
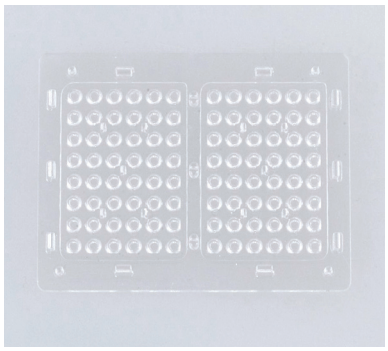
- Disposable plastic LabChip
- Multiplex sample prep for 8 & 12 samples
- High efficiency
- 0.1 – 1ml sample volume

UltraFast LabChip Real-time PCR / LabChip



▶ Channel Type

- Disposable plastic LabChip
- Multiplex real-time PCR for 6 & 10 samples
- High efficiency
- 16 µl reaction volume

▶ µ Well Type

- Disposable plastic LabChip
- Multiplex real-time PCR for 18, 48, 96 samples
- High efficiency
- 8 µl reaction volume

▶ LabChip Case

- Reusable plastic LabChip case
- LabChip holder

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UltraFast LabChip Real-time PCR Bio Reagents / Kits

▶ Features

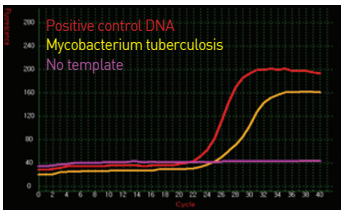
- Rapid and accurate detection
- High specificity and sensitivity
- Easy-to-use master mix
- Economic cost

UltraFast LabChip Real-time PCR –TB Kit

▶ Product Description

This kit is designed for the detection and quantification of Mycobacterium tuberculosis (MTB) in respiratory specimens. There are several tests available to help with the diagnosis of tuberculosis (TB). Culture tests are the most accurate and useful among traditional methods, but tests take up to 6~8 weeks to obtain a result. Thus, real-time PCR has recently become a useful diagnostic tool for rapid and sensitive MTB detection. This kit has high sensitivity and specificity, and can detect MTB infection within 25 min. due to the utilization of the NBS UltraFast LabChip Real-time PCR machine.

▶ Example Data

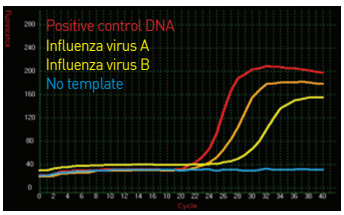


UltraFast LabChip Real-time PCR – Influenza A/B Virus Kit

▶ Product Description

This kit is designed for the detection and quantification of the Influenza A and B viruses.
Early detection of the Influenza A and B viruses is important for effective treatment and preventive measures. Real-time PCR is faster than traditional diagnostic methods and valuable for the surveillance and rapid identification of influenza for early diagnosis. This kit has high sensitivity and specificity, and can detect the Influenza A and B virus infections within 35 min. using the NBS UltraFast LabChip one-step RT & Real-time PCR system.

▶ Example Data

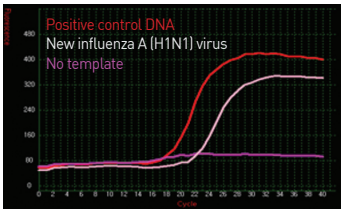


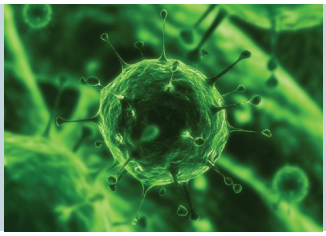
UltraFast LabChip Real-time PCR – New Influenza A Virus (H1N1) Kit

▶ Product Description

This kit is designed for the accurate quantitative detection of New influenza A (H1N1) viral RNA from nasopharyngeal swabs, nasopharyngeal aspirates, and bronchoalveolar lavage.
This kit has high sensitivity and specificity, and can detect the 2009 pandermic H1N1 virus infection within 35 min. using the NBS UltraFast LabChip one-step RT & Real-time PCR system.

▶ Example Data



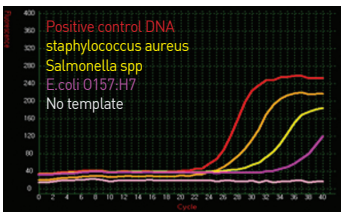




UltraFast LabChip Real-time PCR (Food Pathogens Kits) – Salmonella spp. Kit

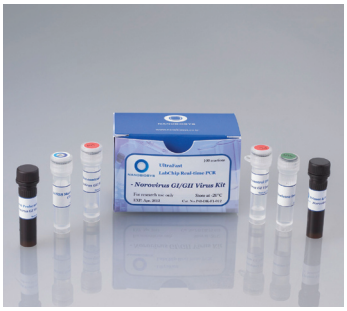
▶ Product Description

These kits are designed to detect and quantify 16 food bacterial pathogens : Listeria monocytogenes, staphylococcus aureus, shigella spp., clostridium perfringens, campylobacter jejuni, campylobacter coli, bacillus cereus, yersinia enterocolitica, Salmonella spp., vibrio parahaemolyticus, vibrio vulnificus, vibrio cholerae, Enterotoxigenic Escherichia coli (ETEC), Enterohemorrhagic Escherichia coli (EHEC), Enteroinvasive Escherichia coli (EIEC), Entero-pathogenic Escherichia coli (EPEC).
These kits have high sensitivity and specificity, and can detect food pathogens within 15~25 min. using the NBS UltraFast LabChip Real-time PCR system.

▶ Example Data



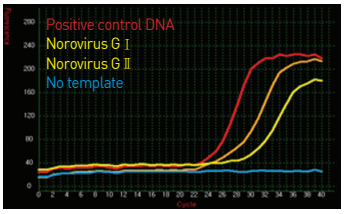
UltraFast LabChip Real-time PCR – Norovirus GⅠ / GⅡ Kit



▶ Product Description

This kit is designed for the detection and quantification of Norovirus GⅠ / GⅡ.
Norovirus is transmitted directly from person to person and indirectly via contaminated water and food. Early detection is essential to prevent the spread of norovirus. Thus, specific diagnosis of norovirus is routinely done by real-time PCR, which gives very sensitive and rapid results.
This kit can detect norovirus within 35 min. using the NBS UltraFast LabChip one-step RT & Real-time PCR system.

▶ Example Data

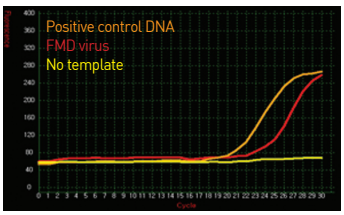


UltraFast LabChip Real-time PCR – Foot and Mouth Disease Virus(FMDV) Kit

▶ Product Description

This kit is designed for the accurate quantitative detection of Foot and Mouth Disease (FMD) viruses. FMD is a highly contagious viral infection primarily found in cloven-hoofed domestic animals, such as cattle, pigs, sheep, goats and deer. The FMD virus has seven serotypes : A, O, C, Asia 1, and Southern African Territories (SAT) 1, 2 and 3.
This kit has high sensitivity and specificity, and can be exactly performed to detect RNA of Foot and Mouth virus within 35 min. using the NBS UltraFast LabChip one-step RT & Real-time PCR system.

▶ Example Data



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Product List

UltraFast LabChip Real-time PCR G2-3 System

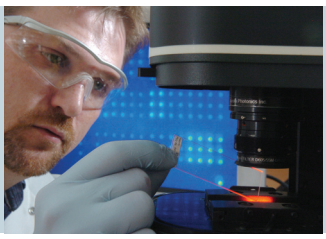
Cat No.	Product Description	Size
P-S-RP-23-101	UltraFast LabChip Real-time PCR G2-3 / Machine	1 EA
P-S-RP-23-901	UltraFast LabChip Real-time PCR G2-3 / LabChip Case	1 EA
P-M-RP-C0-006	UltraFast LabChip Real-time PCR G2-3 / LabChip - 6 ch	50 EA
P-M-RP-C0-010	UltraFast LabChip Real-time PCR G2-3 / LabChip - 10 ch	50 EA
P-M-RP-W0-018	UltraFast LabChip Real-time PCR G2-3 / LabChip - 18 uw	50 EA
P-M-RP-W0-048	UltraFast LabChip Real-time PCR G2-3 / LabChip - 48 uw	50 EA
P-M-RP-W0-096	UltraFast LabChip Real-time PCR G2-3 / LabChip - 96 uw	50 EA

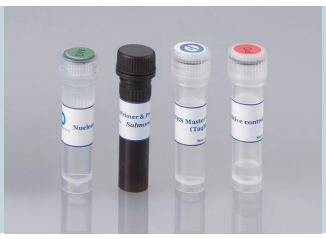
UltraFast LabChip Sample Prep G2 System

Cat No.	Product Description	Size
P-S-SP-20-101	UltraFast LabChip Sample Prep G2 / Machine	1 EA
P-B-BR-SP-001	UltraFast LabChip Sample Prep G2 Kit	100 Tests
P-M-SP-C0-008	UltraFast LabChip Sample Prep G2 / LabChip - 8ch	50 EA
P-M-SP-C0-012	UltraFast LabChip Sample Prep G2 / LabChip - 12ch	50 EA

UltraFast LabChip Real-time PCR G2-3 Bio-Reagents

Cat No.	Product Description	Reaction Volume
Bio Reagents		
P-B-BR-M1-001	UltraFast LabChip SYBR Green Real - time PCR Kit	100 Tests
P-B-BR-M2-001	UltraFast LabChip Taqman Real - time PCR Kit	
P-B-BR-M3-001	UltraFast LabChip Taqman One - step RT & Real-time PCR Kit	
P-B-BR-M3-001	UltraFast LabChip SYBR Green One - step RT & Real-time PCR Kit	
Food Pathogen Kits		
P-B-DK-F1-001	UltraFast LabChip Real-time PCR - Listeria Monocytogenes Kit	100 Tests
P-B-DK-F1-002	UltraFast LabChip Real-time PCR - Stephylococcus aureus Kit	
P-B-DK-F1-003	UltraFast LabChip Real-time PCR - Shigella Spp. Kit	
P-B-DK-F1-004	UltraFast LabChip Real-time PCR - Clostridium perfringerns Kit	
P-B-DK-F1-005	UltraFast LabChip Real-time PCR - Camphylobacter jejuni Kit	
P-B-DK-F1-006	UltraFast LabChip Real-time PCR - Bacillus cereus Kit	
P-B-DK-F1-007	UltraFast LabChip Real-time PCR - Yersinia enterocolitica Kit	
P-B-DK-F1-008	UltraFast LabChip Real-time PCR - Salmonella Spp. Kit	
P-B-DK-F1-009	UltraFast LabChip Real-time PCR - Vibrio paraheamolyticus Kit	
P-B-DK-F1-010	UltraFast LabChip Real-time PCR - Enterotoxigenic Bacteria, E.coli (ETEC) Kit	
P-B-DK-F1-011	UltraFast LabChip Real-time PCR - E.Coli O157 : H7 Kit	
P-B-DK-F1-012	UltraFast LabChip Real-time PCR - Norovrus GI / GII Kit	
Human Disease		
P-B-DK-R1-001	UltraFast LabChip Real-time PCR - New Influenza A Virus (H1N1) Kit	100 Tests
P-B-DK-R1-002	UltraFast LabChip Real-time PCR - Influenza A virus Kit	
P-B-DK-R1-003	UltraFast LabChip Real-time PCR - Influenza B virus Kit	
P-B-DK-R1-004	UltraFast LabChip Real-time PCR - Influenza A/B Virus (H1N1) Kit	
P-B-DK-R1-005	UltraFast LabChip Real-time PCR - TB Kit	
P-B-DK-S1-001	UltraFast LabChip Real-time PCR -STD Kit	
P-B-DK-H1-001	UltraFast LabChip Real-time PCR - Hepatitis A,B Virus Kit	
Animal Disease		
P-B-SR-M1-101	UltraFast LabChip Real-time PCR - Porcine Reproductve and Respiratory Syndrome Virus(PRRSV) Kit	100 Tests
P-M-SP-C0-008	UltraFast LabChip Real-time PCR - Porcine CircoVirus Type 2(PCV2) Kit	
P-M-SP-C0-012	UltraFast LabChip Real-time PCR - Foot and Mouth Disease Virus(FMDV) Kit	





NANOBIOSYS

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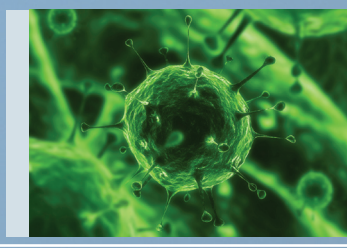

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