MolBio™
HIMEDIA
Unzipping Genes

InstaNX™

Automated Nucleic acid purification system

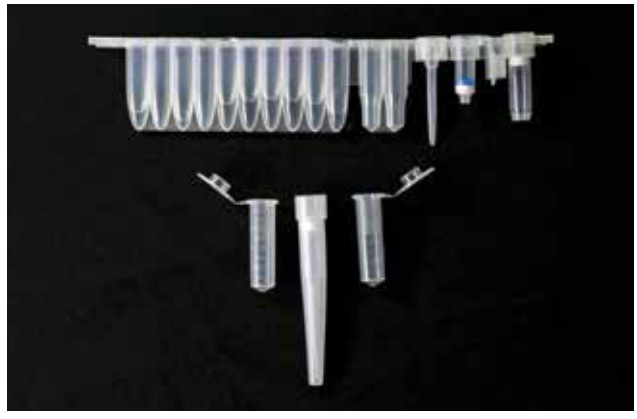
HIMEDIA®
For Life is Precious

Salient Features :

- Newly designed innovative Super -S membrane technology
- Easy-to-use and easy-to-maintain system operation
- Wide range of applications for DNA, RNA and Viral DNA/RNA extraction from various types of samples
- Ready to use with the prefilled reagent cartridges
- Stream-line workflow to avoid cross contamination
- Integrated UV light for sterilization of internal parts of the machine
- It has a provision for USB port for scanning protocol

Description:

The Insta NX Instrument is a fully automated nucleic acid purification system. Utilizing the Innovative Super -S membrane column method, it can purify nucleic acids with high yield and purity from a wide range of samples. In addition, through our Innovative Trinity Technology, the purification procedure can be done within a small and straight-line cartridge without centrifuge and vacuum pump. Up to 12 samples can be processed in a single run. Also, contamination-free optimum extraction can be achieved with the use of pre-filled reagents, disposables (Trinity Technology) and integrated UV sterilization.



The automated steps performed by the Insta NX Instrument include :

- Sample lysis in the presence of a specially formulated Lysis Buffer on the heating block.
- Binding of nucleic acids to Super -S membrane in the column.
- Washing of the bound target molecules to remove other cellular components.
- Elution of the DNA/RNA into the elution tubes.

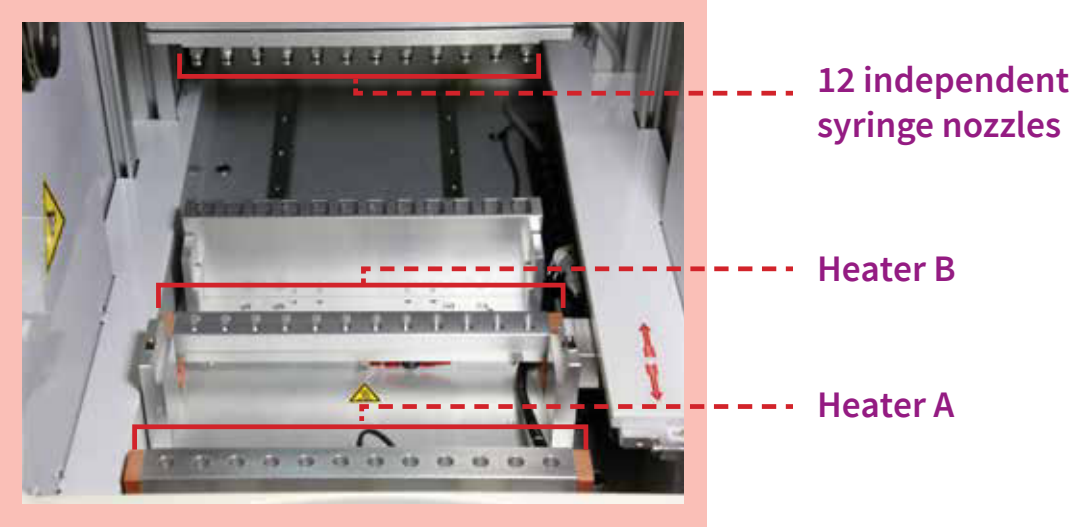
Product Intended Use:

The Insta NX Instrument is intended for use in combination with HiMedia kits to perform automated purification of nucleic acids. The nucleic acid purified using the Insta NX Instrument is suitable for direct downstream analysis by standard amplification methods.

Test Parameters :

Sample	Pre-processing Sample volume	Pre-processing time	Processing time	Yield	Purity
Clinical samples					
Dengue Serum	140 µl	5 mins	1hr 15 min	10-50 ng/µl	1.6 to 1.9
Whole blood	200 µl	5 mins		10-50 ng/µl	
Urine sample	5 ml	10 mins		10-50 ng/µl	
Stool sample	250 mg	45 mins		10-50 ng/µl	
Sputum sample	500 µl	40 mins		10-50 ng/µl	
HPV sample	200 µl	5 mins		10-50 ng/µl	
Food Samples					
Spice mix	1.5 ml	30 mins		-	
Milk powder	1.5 ml	30 mins		-	
Fruit juices	1.5 ml	30 mins		-	
Whole milk	1.5 ml	30 mins		-	
Chocolates	1.5 ml	30 mins		-	
Water	400 µl	1 hr		10-50 ng/µl	
Chicken tissue	25 mg	5 mins (followed by 2 hrs of incubation)		10-50 ng/µl	
Veterinary Samples					
Horse serum	200 µl	5 mins		10-50 ng/µl	
Goat	25 mg	5 mins (followed by 2 hrs of incubation)		10-50 ng/µl	
Plant Samples					
Rice	200 mg	35 mins		10-50 ng/µl	
Mint	200 mg	35 mins		10-50 ng/µl	
Miscellaneous					
Bacteria	1.5 ml	45 mins		10-50 ng/µl	

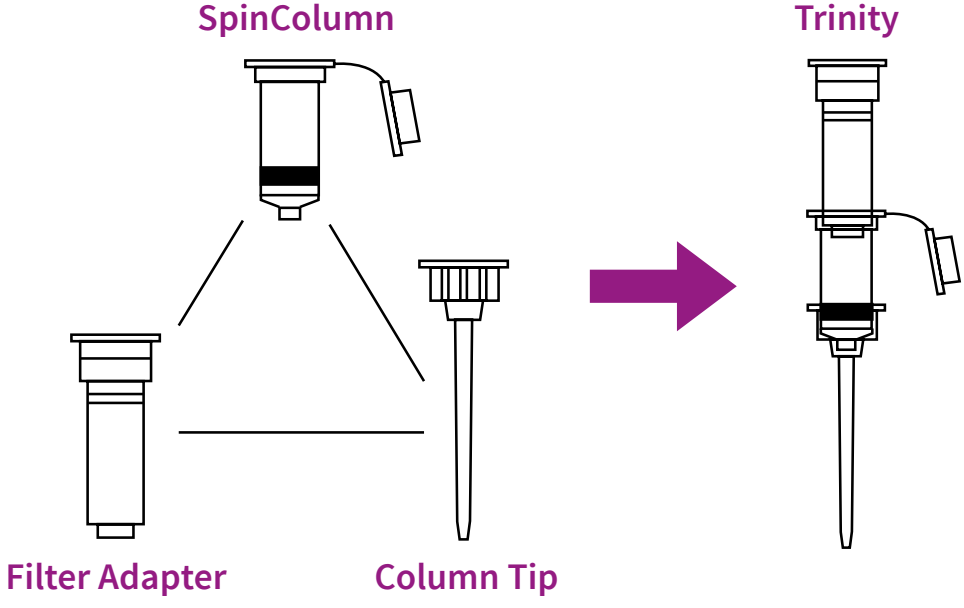
Worktable of Insta NX™



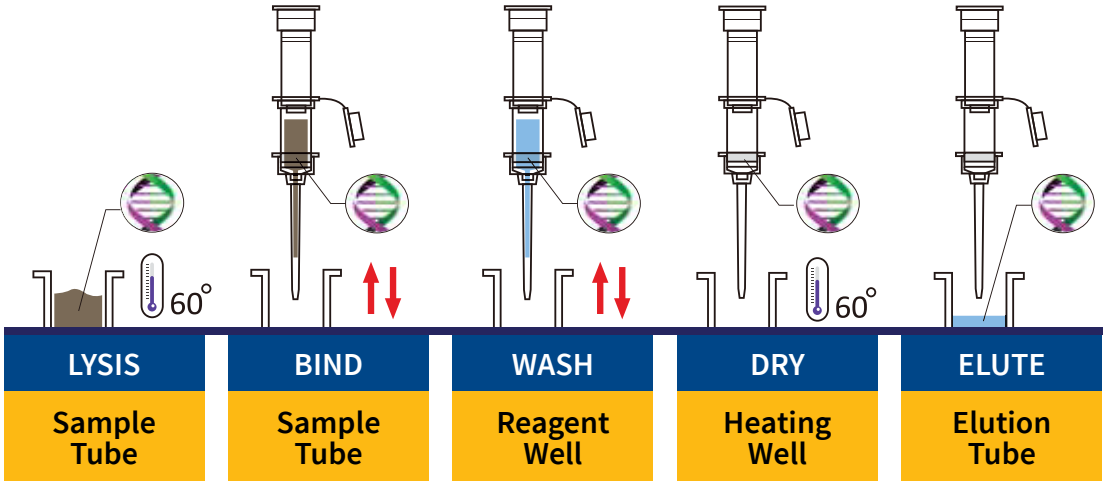
Trinity Technology™

Our innovative technology to purify nucleic acids!

We have developed the Trinity, a combination of Super-S Column, Filter Adapter and Column Tip. The innovative Super-S column utilizes a Bi-directional flow technology to allow Automation of DNA and RNA extraction. Differential air pressure methology ensures an efficient flow of lysate, wash buffers and elution solutions to simultaneously obtain good yield and purity of extracted nucleic acids. A high quality DNA/RNA is obtained for further downstream analysis.



Streamline workflow



Setup worktable

1. Place cartridge

2. Place 1 ml Tip

3. Place Elution tube

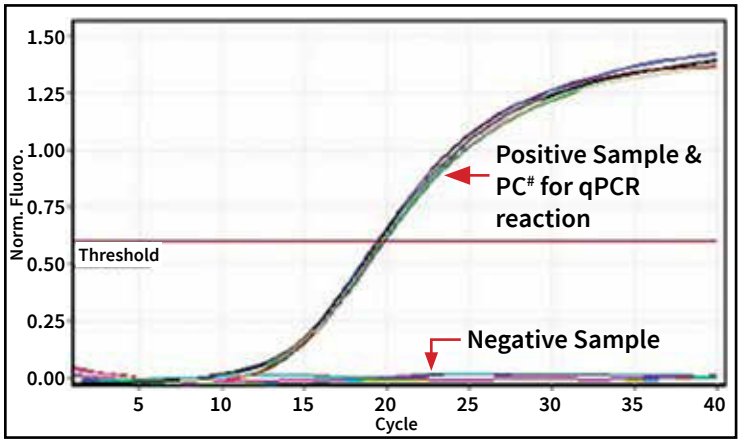
4. Place rack into system

5. Close the lid and Start run

Cross contamination free DNA/RNA in same run

No.	1	2	3	4	5	6	7	8	9	10	11	12
Sample	-	+	-	+	-	+	-	+	-	+	-	+

+ Positive Sample : Plasma sample with $7x10^6$ copies of HBV (mean of C_t* = 19.7)
- Negative Sample : Nuclease free water

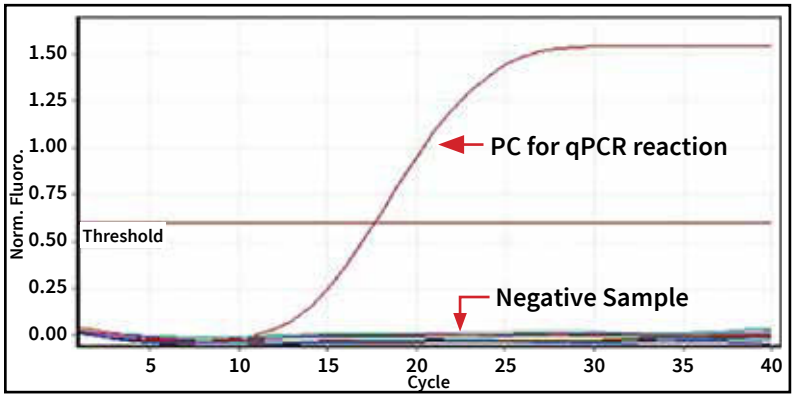


- Positive samples for HBV were placed in tubes labelled with even numbers and negative samples were placed in tubes labelled with odd numbers during the same run.
- qPCR was performed using DNA extracted from Insta NX.
- Only positive sample was amplified during qPCR.
- No Cross contamination was observed.
- Provision for UV sterilization of Insta NX to avoid cross contamination.

Cross contamination free DNA/RNA between different runs

No.	1	2	3	4	5	6	7	8	9	10	11	12
Sample	-	-	-	-	-	-	-	-	-	-	-	-

- Negative Sample : Nuclease free water



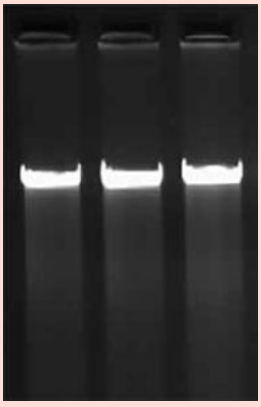
- To check cross contamination between different runs, 2 different protocols were performed.
  1) HBV positive samples in first run.
  2) Nuclease free water in second run.
- qPCR was performed using DNA extracted from Insta NX.
- HBV positive sample was amplified. Nuclease free water sample did not show any amplification.
- No cross contamination was observed between different runs.
- Provision for UV sterilization of Insta NX to avoid cross contamination.

*C_t - Threshold value
#PC - Positive control

Extraction & PCR/RT-PCR/ Real time PCR Data on Insta NX™

Blood

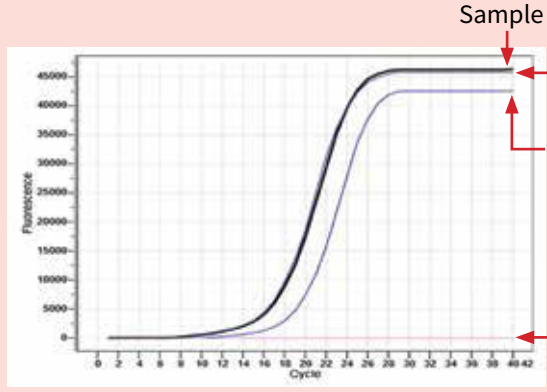
Human Blood DNA



Yield and Purity

Lanes	Yield (ng/µl)	Purity (A_{260}/A_{280})	Purity (A_{260}/A_{230})
1	16.1	1.61	0.80
2	16.1	1.77	1.21
3	16.2	1.90	1.38

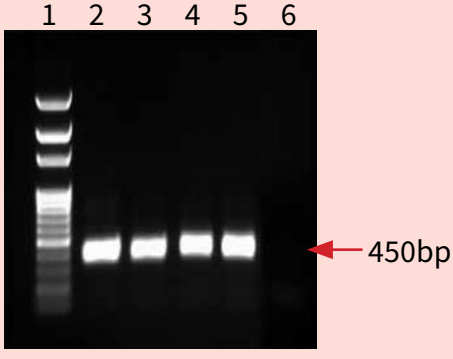
qPCR data of Human Blood DNA sample



Sample	C_t value
Positive control	13.39
Sample1	12.91
Sample 2	11.92
Negative control	N/A

Blood

Semi Q PCR of GAPDH from Human Blood sample



Lanes	Content
1	100bp ladder
2-3	Positive control
4-5	GAPDH PCR Product (450bp) (DNA extracted by Insta NX)
6	Negative control

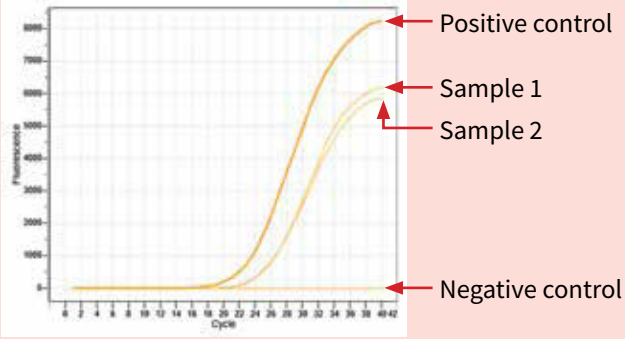
Semi Q PCR of Dengue from Viral RNA

Lanes	Content
1	100bp ladder
2-3	Positive control
4	Viral RNA PCR (511 bp) (DNA extracted by Insta NX)
5	Negative control

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Blood

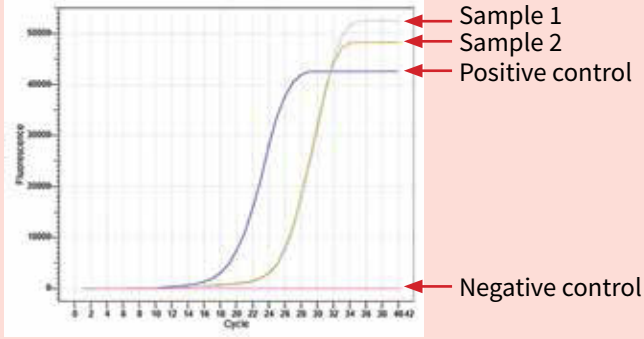
qPCR data of Malarial DNA



Sample	C_t value
Positive control	20.03
Sample1	23.06
Sample 2	23.23
Negative control	N/A

Serum

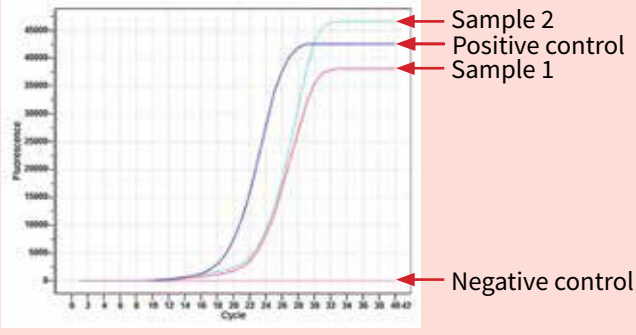
qPCR data of Human Serum DNA



Sample	C_t value
Positive control	13.39
Sample1	16.76
Sample 2	17.49
Negative control	N/A

Plasma

qPCR data of Human Plasma DNA



Sample	C_t value
Positive control	13.39
Sample1	14.84
Sample 2	12.84
Negative control	N/A

Sputum

Sputum DNA sample

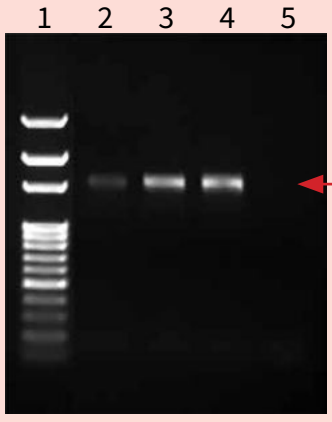
Yield and purity

Lanes	Yield (ng/µl)	Purity (A_{260}/A_{280})
1	9.1	2.02
2	17.2	2.05

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Urine

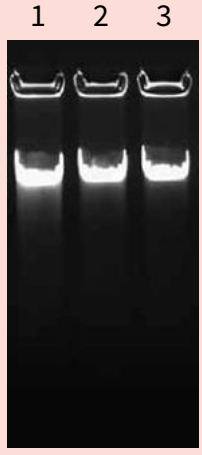
Semi Q PCR of Urine DNA sample



Lanes	Content
1	100 bp Ladder
2	Positive control
3	Urine sample 1
4	Urine sample 2
5	Negative control

Human Stool

Human Stool DNA



Yield and Purity

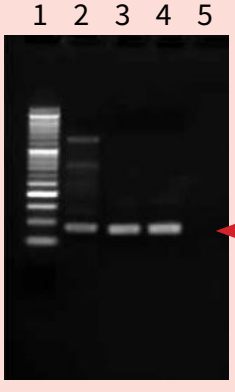
Lanes	Yield (ng/µl)	Purity (A_{260}/A_{280})	Purity (A_{260}/A_{230})
1	82.57	1.72	1.17
2	80.37	1.75	1.45
3	106.89	1.90	1.10

Clinical Samples

Endocervical epithelial cells

Semi Q PCR of HPV DNA from Endocervial Sample

HPV DNA sample

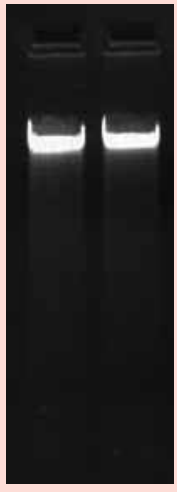


Lanes	Content
1	100 bp Ladder
2	HPV PCR (DNA extracted using Competitor's kit)
3	HPV PCR (DNA extracted using Himedia's kit)
4	Positive control
5	Negative control

Clinical Samples

Rice

Rice Leaf DNA



Yield and Purity

Lanes	Yield (ng/µl)	Purity (A_{260}/A_{280})	Purity (A_{260}/A_{230})
1	39.7	1.71	1.79
2	47.1	1.71	1.45

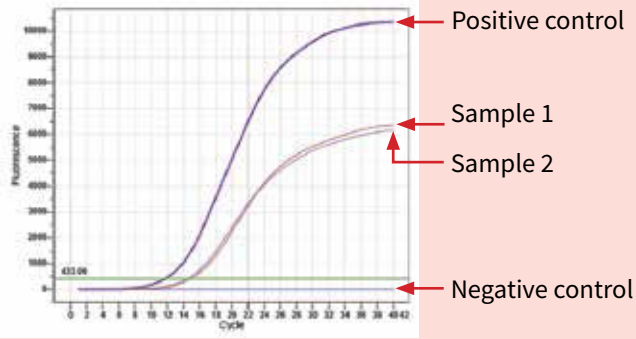
Plant Samples

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Milk

qPCR data of Milk Powder Sample

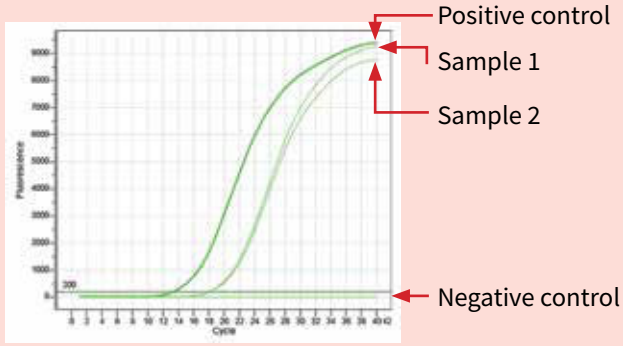
Spiked with 10^{-2} to 10^{0} *Salmonella* Cells/ml



Sample	C_t value
Positive control	11.85
Sample1	14.62
Sample 2	15.02
Negative control	N/A

qPCR data of Whole Milk Sample

Spiked with 10^{-2} to 10^{0} *Salmonella* Cells/ml

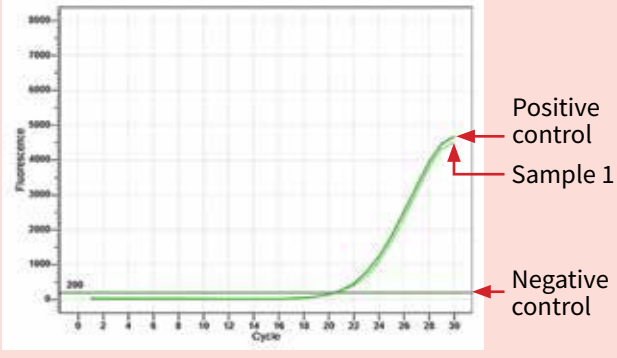


Sample	C_t value
Positive control	13.28
Sample1	18.22
Sample 2	18.1
Negative control	N/A

Juice

qPCR data of Aloe Vera Sample

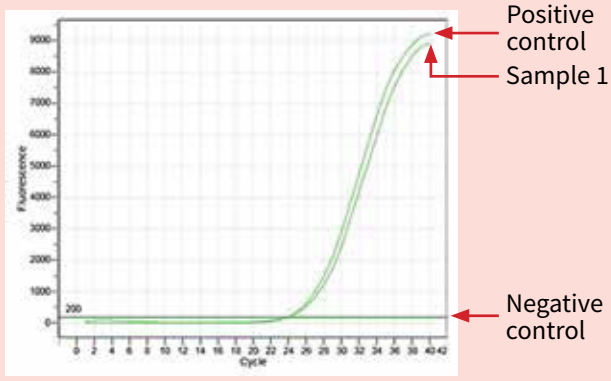
Spiked with 10^{-1} to 10^{1} *Salmonella* Cells/ml



Sample	C_t value
Positive control	20.78
Sample1	20.57
Negative control	N/A

qPCR data of Sweet lime juice Sample

Spiked with 10^{3} to 10^{5} *Salmonella* Cells/ml



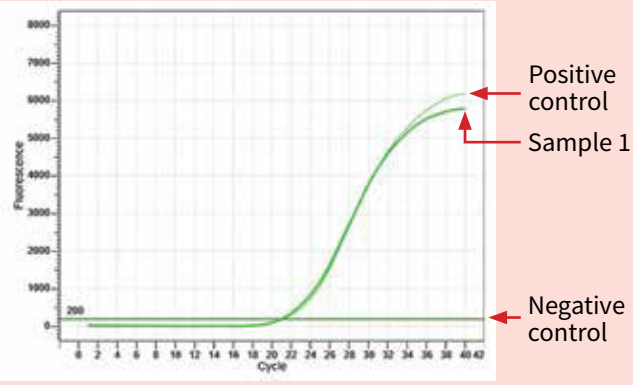
Sample	C_t value
Positive control	24.05
Sample1	24.05
Negative control	N/A

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Masala (Spice Mix)

qPCR data of Chat Masala Sample (Mix of Rock Salt, Pepper, Cumin powder, Cloves etc.)

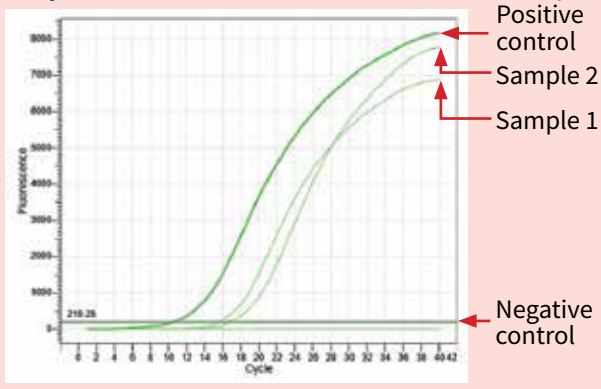
Spiked with 4 x 10^6 to 10^8 *Salmonella* Cells/ml



Sample	C_t value
Positive Control	21.70
Sample1	21.33
Negative Control	N/A

qPCR data of Garam Masala Sample (Mix of Cloves, Cardamom, Cinnamon, Pepper etc.)

Spiked with 10^6 to 10^8 *Salmonella* Cells/ml

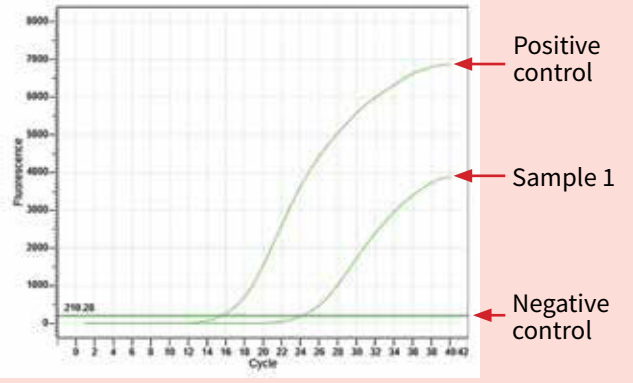


Sample	C_t value
Positive Control	10.76
Sample1	15.74
Sample 2	16.97
Negative Control	N/A

Masala (Spice Mix)

qPCR data of Vegetable Masala Sample (Mix of Chilli, Turmeric, Cloves Cardamom etc.)

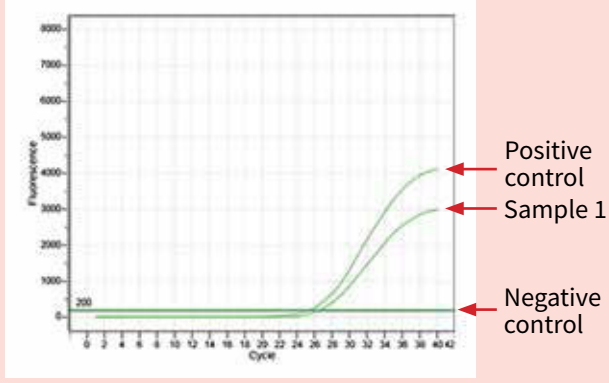
Spiked with 10^4 to 10^6 *Salmonella* Cells/ml



Sample	C_t value
Positive Control	15.74
Sample1	24.33
Negative Control	N/A

qPCR data of Noodle Masala Sample

Spiked with 10^{-1} to 10^1 *Salmonella* Cells/ml

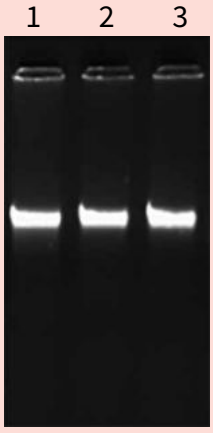


Sample	C_t value
Positive Control	25.44
Sample1	26.63
Negative Control	N/A

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Chicken

Chicken Tissue DNA

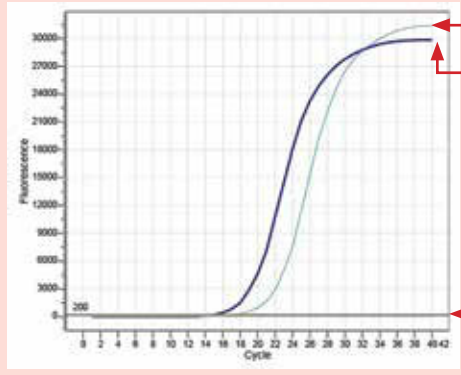


Yield and Purity

Lanes	Yield (ng/µl)	Purity (A_{260}/A_{280})	Purity (A_{260}/A_{230})
1	26.2	1.66	0.61
2	26.3	1.49	0.56
3	27.1	1.41	0.57

Prawn

qPCR data of Prawn DNA

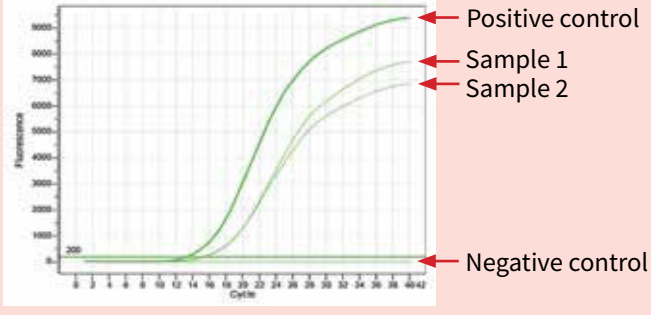


Sample	C_t value
Positive control	13.39
Sample1	15.62
Sample 2	15.26
Negative control	N/A

Chocolate

qPCR data of Chocolate Sample

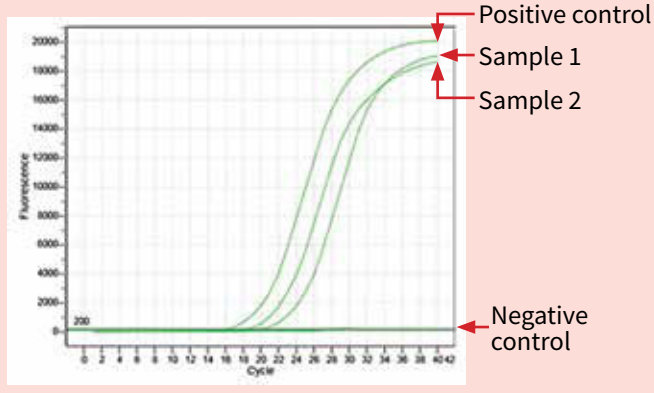
Spiked with 10^{-2} to 10^{0} *Salmonella* Cells/ml



Sample	C_t value
Positive control	13.39
Sample1	15.62
Sample 2	15.26
Negative control	N/A

Water

qPCR data of Water

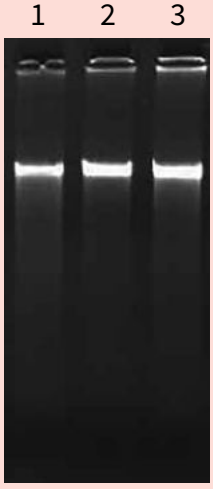


Sample	C_t value
Positive Control	16.16
Sample1	18.44
Sample 2	25.35
Negative Control	N/A

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Goat

Goat Tissue DNA

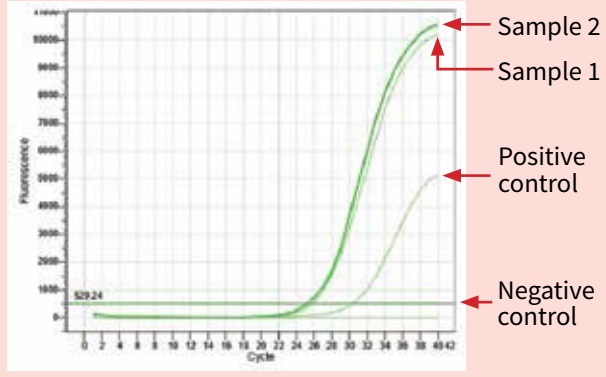


Yield and Purity

Lanes	Yield (ng/µl)	Purity (A_{260}/ A_{280})	Purity (A_{260}/ A_{230})
1	12.92	1.58	1.24
2	19.84	1.62	2.49
3	16.55	1.65	1.65

Horse

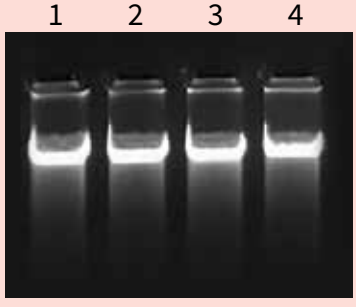
qPCR data of Horse serum DNA



Sample	C_t value
Positive Control	30.48
Sample1	25.89
Sample 2	25.35
Negative Control	N/A

Mammalian cell

Mammalian cell DNA



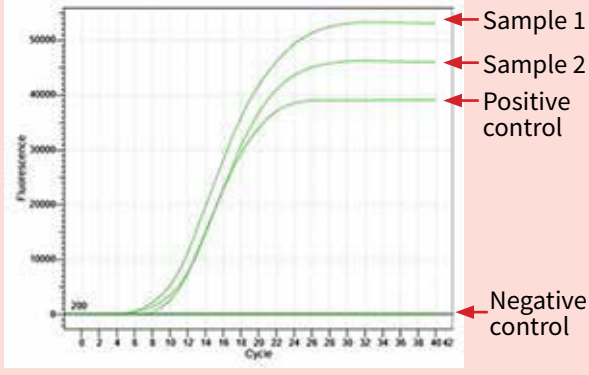
Yield and Purity

Lanes	Yield (ng/µl)	Purity (A_{260}/ A_{280})	Purity (A_{260}/ A_{230})
1	107.56	1.85	2.05
2	101.12	1.85	2.03
3	96.27	1.87	2.02
4	86.52	1.86	2.02

Positive control - DNA extracted manually
Sample - DNA extracted by Insta NX

Bacteria

qPCR data of Bacterial DNA



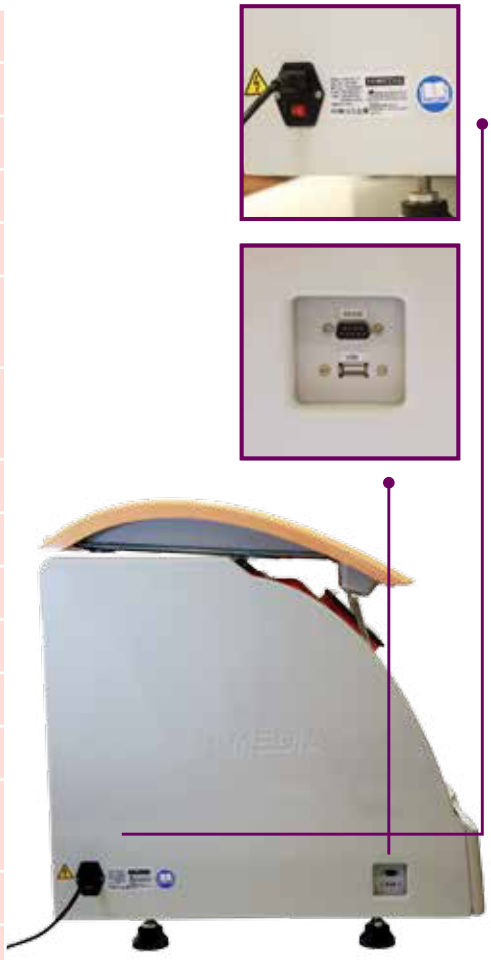
Sample	C_t value
Positive Control	7.92
Sample 1	3.69
Sample 2	4.54
Negative Control	N/A

List of Purification kits for Insta NX™

Code	Product Name
MBIN001	Insta NX™ Blood Genomic DNA Purification Kit
MBIN002	Insta NX™ Food Pathogen DNA Purification Kit (Salmonella) (Provided with Culture Media)
MBIN003	Insta NX™ Tissue Genomic DNA Purification Kit
MBIN004	Insta NX™ Urine DNA Purification Kit
MBIN005	Insta NX™ Plant Genomic DNA Purification Kit
MBIN006	Insta NX™ Bacterial Genomic DNA Purification Kit
MBIN007	Insta NX™ Stool DNA Purification Kit
MBIN008	Insta NX™ Fungal DNA Purification Kit
MBIN009	Insta NX™ Soil DNA Purification Kit
MBIN010	Insta NX™ Water DNA Purification Kit (Without enrichment)
MBIN011	Insta NX™ Cell Genomic DNA Purification Kit

Specifications :

Product Name	Insta NX™
Product Code	LA1056
Sample Capacity	1-12 Samples per run
Sample Volume	140-800µl
Elution Volume	50, 100, 150, 200µl
Processing Time	50-120 minutes (depends on sample type and method)
Heating Block	Room Temp. to 120°Cx1; Room Temp. to 70°Cx1
Electric Control	Internal microprocessor
Light Source	LED white light
Touch Screen	WVGA (16:9) 7” TFT LCD
Power Supply	100-240V, 50/60 Hz
Operating Condition	18-30°C
Weight	60 Kg
Dimension (W x D x H)	44 x 72 x 64 cm
UV Light	InBuilt
Certification	CE approved



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