Real-Time PCR Detection System

Insta-Q Series

HIMEDIA ®

For Life is Precious

HiGenoMB
Unzipping Genes

Introduction

With a vision to redefine PCR based solutions, HiMedia Laboratories Pvt. Ltd. launched the Insta-Q Real-Time PCR Platform with its unique range of features making it an exclusive Real-Time PCR Detection System in the market. Our User-Friendly State of the Art machines can measure amplification as it occurs, cycle by cycle, thus resulting in precise & accurate quantification.

The Insta Q Series of Real-Time PCR Systems are a fully integrated quantitative PCR amplification, detection and data analysis platform. The latest design combines a thermal cycler, an advanced optical system with individual LED excitation source and an intuitive data analysis software. The Gradient Feature aids in easy assay optimization.

These robust machines are genuinely Open Systems – which enable the user to decide the choice of reagents and kits to be run. The machines come with Factory Calibrated Filters. Re-calibration is required only if any major machine upgradations are done. A unique feature of the Insta-Q series is the qPCR optics available in a more flexible format. To get accurate results, the Robotic Arm Scans Individual Well which Eliminates the use of Passive Reference Dye - ROX dye.

The software is equipped to export the raw data in multiple formats such as Excel, Images, Word thus allowing results to be viewed in common programs.

We are confident that the user will be impressed with the sensitivity and specificity of the Insta Q series of instruments that will help them generate Faster, Hassle-free and Reliable results and achieve the desired research goals.

Features

◇ Truly Open System [Compatible with Kits and Reagents of other companies].

◇ ROX independent Real-Time PCR system. Normalization with ROX dye not required.

◇ Customizable dye library to create new excitation/ detection wavelength combinations in given range and hence compatible with dyes to be used in future.

◇ User Friendly Software to facilitate simple assay set up and data interpretation.

◇ Auto Gain intensity function for fluorescence adjustments.

◇ 12 different gradient temperatures (1°C to 36°C gradient range).

◇ Wireless experience.

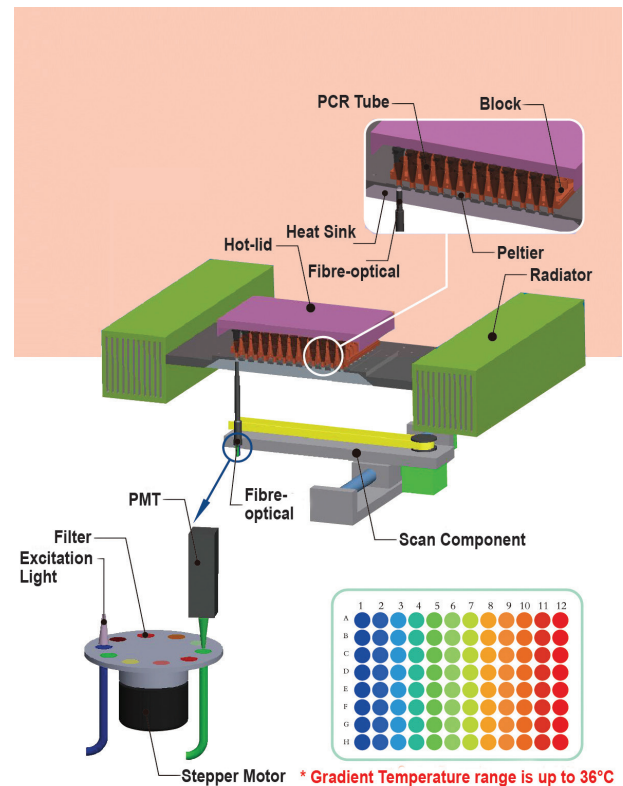◇ Factory calibrated filters, no need of calibration after new dye added or in future.

Dye Library	
Channel Wavelength	Dyes
470nm – 525nm	FAM, SYBR
523nm – 564nm	HEX, JOE, TET, VIC
571nm – 612nm	ROX, TexRed
628nm – 692nm	CY5, Quasar 750
678nm – 718nm	Cy5.5

1. Innovative 3D Hotlid Design and Technology
2. 96 Wells High Throughput
3. Gradient facility
4. Well to well individual scanning
5. Optical fibre based PMT Technology for detection

HIMEDIA®

Working Principle of the Machine

✧ Ferrotec Peltier technology used for thermal cycling during PCR assay.

✧ LED based excitation source with advanced fibre optic transmission technology for Sensitive and Reliable photoelectric detection system.

✧ Photo multiplier Tube (PMT) detects fluorescent emission.

✧ Stepper motor with robotic arm containing optical fibre used for individual well scanning.
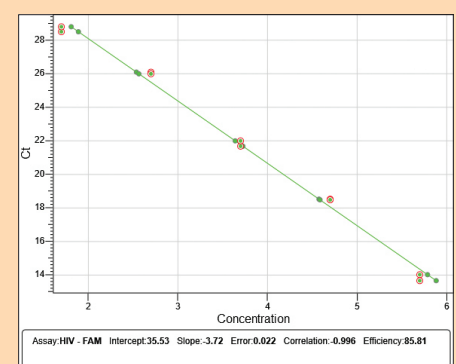
✧ Scanning time period: 5.5 seconds for 96 wells.

Analysis procedures supported by Insta Q Series software

Insta Q Series

A — Absolute quantification

B — Relative quantification

C — Single Nucleotide Polymorphism (SNP)

D — High Resolution Melt (HRM)

Labels on machine diagram: PCR Tube, Block, Heat Sink, Hot-lid, Fibre-optical, Peltier, Radiator, PMT, Fibre-optical, Scan Component, Filter, Excitation Light, Stepper Motor

* Gradient Temperature range is up to 36°C

Absolute Quantification

✧ Absolute quantification is achieved by comparing the Ct values of the test samples to a standard curve.

✧ The result of the analysis is quantity of nucleic acid (copy number, μg) per given amount of sample (per cell, per μg of total RNA).

✧ Absolute quantitation uses serially diluted standards of known concentrations to generate a standard curve.

✧ Standard curve produces a linear relationship between Ct and initial amounts of total RNA or cDNA of the GOI, allowing the determination of the concentration of unknowns based on their Ct values.

✧ The linearity is denoted by the R squared (R^2) value (R^2 or Pearson Correlation Coefficient) and should be very close to 1 (> 0.985).

✧ The efficiency of both the standard curve and sample reactions should be between 90 and 110%.

Standard Quantification Assay

Graph: Ct vs Concentration

Assay:HIV - FAM   Intercept:35.53   Slope:-3.72   Error:0.022   Correlation:-0.996   Efficiency:85.81

Plotting a Standard Curve

✧ In absolute quantification, the quantity (e.g., copy number or unit mass) of the unknown sample is interpolated from a range of standards of known quantity.

✧ To construct a standard curve, a template with known concentration is required.

✧ Dilution of this template is then performed and these dilutions serve as the standards. The unknown test samples are assayed with the standards in the same experimental run.

✧ The standard curve constructed from the diluted standard template can then be used to determine the target quantity in the unknown sample by interpolation, similarly to using molecular size standards to determine the molecular size of an unknown DNA band on an agarose gel.

Software Analysis Interface
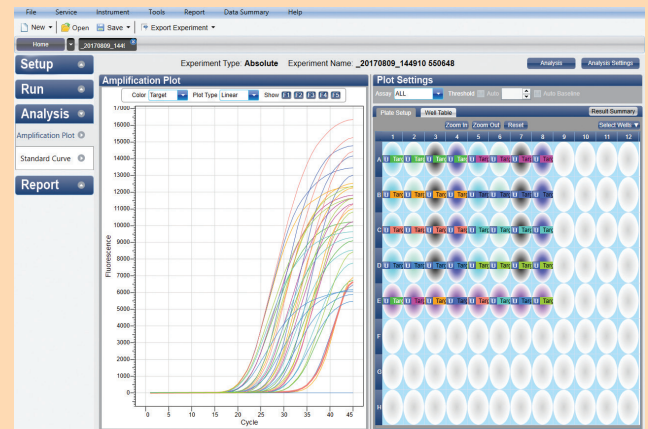
Relative Quantification

Although absolute quantification can be useful in determining absolute quantities of target, the majority of scientific questions regarding gene expression can be accurately and reproducibly answered by measuring the relative concentration of the GOI in unknown samples.

Features

✧ Automated calculation of ΔCt and ΔΔCt values by software.

✧ Exact and final RQ values provided by software at the end of the assay.

✧ Easy and hassle free transfer of data to Excel or Word format on a Single Click.

✧ Option to import Standard curves run from other experiments in RQ assays as well.

✧ Normalization to multiple endogenous controls.

✧ Amplification efficiency of the reaction is an important consideration when performing relative quantitation.

✧ Past methods of calculating gene expression have assumed the amplification efficiency of the reaction is ideal, or 1.

✧ Actual amplification efficiency values for a particular reaction can be established via a standard curve measurement during assay design, and multiple standard curves should be run to verify that this efficiency measurement is reproducible.

✧ Let's get the nomenclature settled.

♦ The gene of interest whose expression is getting determined is the *target gene*.

♦ The housekeeping gene whose expression is unregulated is called the *reference gene*.

♦ The sample (or group of samples) being used as a control is the *calibrator sample*.

♦ Finally, the sample (or group) that is being treated or tested for differences is the *test sample*.

- The ratio of the target gene expression in the *test sample* over the *calibrator sample* is interchangeably called the *expression fold change* or *relative gene expression*.

✧ Differences in Ct value between an unknown sample and reference sample are expressed as fold- changes (i.e., up- or down- regulated) relative to the reference sample and thereby the results are expressed as a target/reference ratio.

Relative Quantification
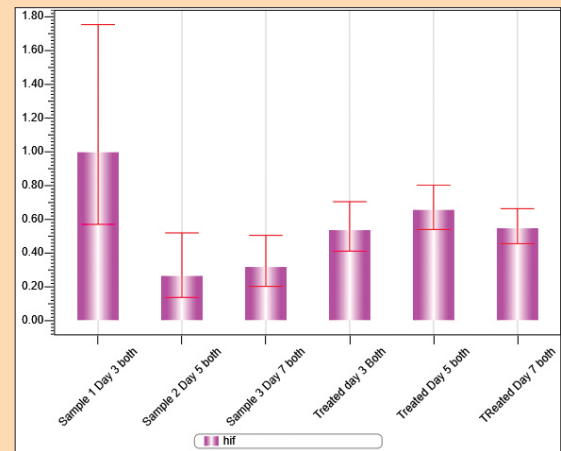
High-Resolution Melt Analysis

✧ The principle of HRM is the same as a Low-Resolution Melt curve, except that the temperature difference between each fluorescence reading is reduced. During a Low-Resolution Melt curve analysis, the temperature increases are typically in 0.5 °C steps, but for HRM this is reduced to 0.008 - 0.2 °C increments. This allows a much more detailed analysis of the melting behaviour.

✧ HRM sensitivity and reliability has been improved with the use of a variety of new dsDNA intercalating dyes viz., - LCGreen (R), SYTO9, EvaGreen (R), Chromofy and BEBO.

HRM data
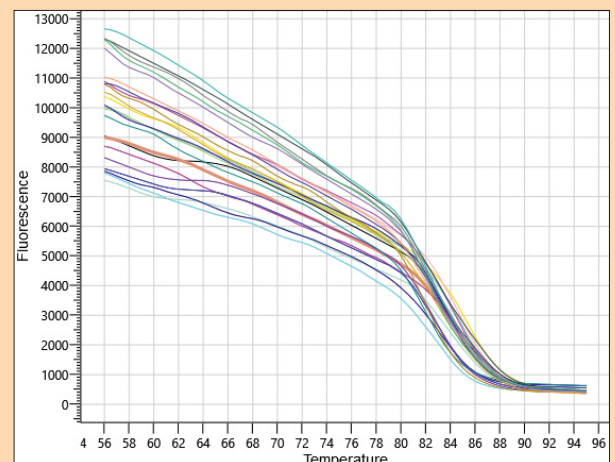
Features

✧ HRM assays can be run using the same software. Saves the trouble of learning and procurring a new software

✧ No external calibration required for running HRM assays

✧ Cost effective compared to other genotyping technologies such as sequencing and TaqMan SNP typing.

✧ Fast and powerful thus able to accurately genotype huge numbers of samples in rapid time.

✧ Fast and high-throughput analysis of post-PCR of genetic mutations or variance in nucleic acid sequences.

✧ It is simple. With a good quality, HRM assay powerful genotyping can be performed by non-geneticists in any laboratory with access to an HRM capable Real-Time PCR machine.

HRM has renewed interest in the utility of DNA melting for a wide range of uses, including:

- Mutation discovery (gene scanning)
- Screening for loss of heterozygosity
- DNA fingerprinting
- SNP genotyping
- Characterization of haplotype blocks
- DNA methylation analysis
- DNA mapping

- Species identification
- Somatic acquired mutation ratios
- HLA compatibility typing
- Association (case/control) studies
- Allelic prevalence in a population
- Identification of candidate predisposition genes

Single Nucleotide Polymorphism (SNP)

- A Single Nucleotide Polymorphism or SNP is a DNA sequence variation occurring when a single nucleotide in the genome differs between members of a species.
- Probe based SNP Genotyping Assays provide a highly flexible technology for detection of polymorphisms within any genome.
- Probe Assays have a simple workflow and provide a quick way to generate genotyping data.

Features

- Auto Call and Manual call options
- Easy and colour coded Scatter plot based on SNP assay analysis

SNP
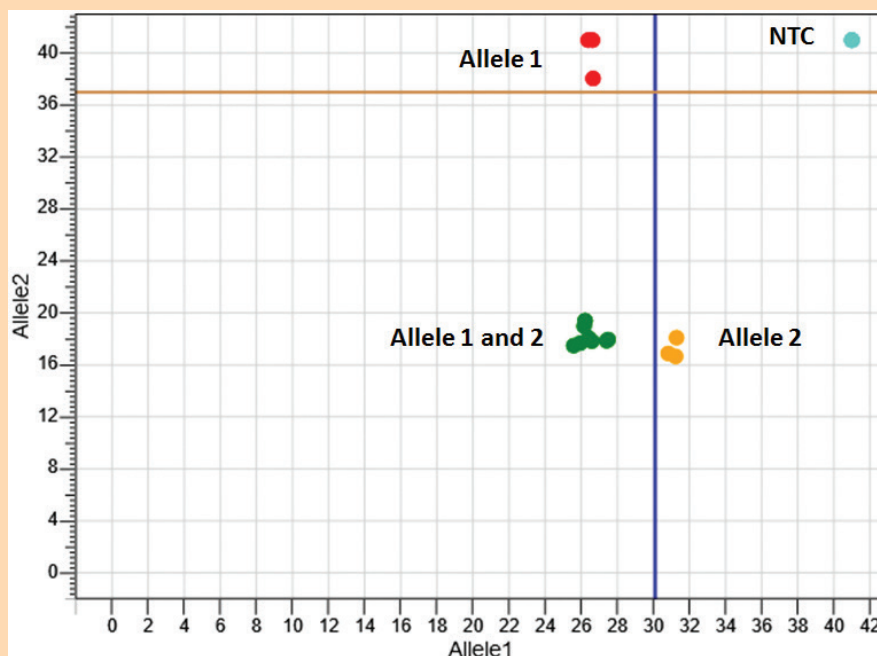
Report Generation

- ✧ Automatic assay report genration at the end of PCR run.
- ✧ Inbuilt report editor software for customizing assay reports as per requirement
- ✧ All in one consolidated report for accurate & concised experimental details including
  - ◆ Basic experiment information
  - ◆ Experiment process
  - ◆ Plate diagram and
  - ◆ Amplification curve
  - ◆ Result table with Ct values

Consolidated Report / QC Report

Consolidated Report

Experiment Name: _20170809_144910 550648
Experiment Type: Absolute
User Name: admin
File Name: D:\Vietnam Machine Data_20170809_144910 machine 550648.fqd
Run Time: 2017/08/09 14:50:28 - 2017/08/09 16:31:13
Gain: F1:10,F2:8,F3:11,F4:11,F5:14

Run Program

Hold Stage

Target	Incubation Time	Rate	Sampling
94	60	4	☐

PCR Stage Cycles:45

Target	Incubation Time	Rate	2nd Temp.	Step Size	Step Delay	Grad Temp.	Grad Range	Sampling
94	10	4						☐
55	30	4						☑

Infinite Stage

Target	Rate
8	4

Detectors

Detector	Reporter	Color	Master Mix	Primer	Probe	Supplies	Batch Number
Target1	FAM						
Target2	HEX						
Target3	TET						
Target4	JOE						
Target5	ROX						
Target6	TexRed						
Target7	CY5						
Target8	Cy5.5						

Quan. Analysis Result

#	Well	Assay Item	Property	Dye	Ct	Ct Aver.	Ct SD	Cal. Con.	Con. Aver.	Con. SD	Sample ID
1	A01	Target1	Unknown	FAM	19.83	19.83	0				std 1
2	A02	Target1	Unknown	FAM	23.24	23.24	0				std 2
3	A03	Target1	Unknown	FAM	26.34	26.34	0				std 3
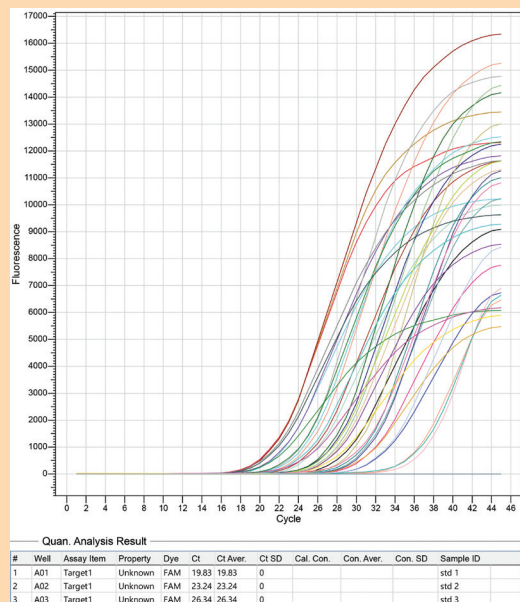
Report Template

HIV Report

Name: _____   Sex: _____   Age: _____   Hospital No.: _____

| Test Item	Test Result	Unit	Reference	Conclusion
HIV	2.11e+05	copies/ml	1.00e+03	Positive

Amplification Curve
— FAM
— FAM

Submitting Date:2017/06/22   Report Date: 2018/05/14   Tester: amruta   Checker: arun
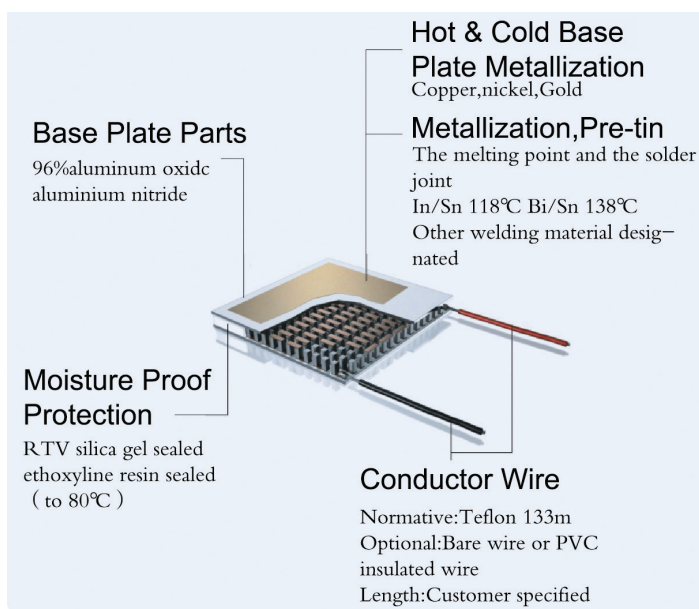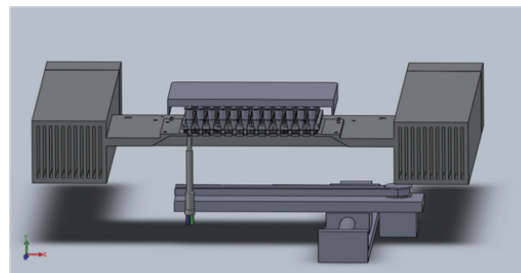
Product Hardware

Hot Lid Technology

- ✧ Innovative 3D Hot Lid. It consists of a Pressure Box which exerts uniform pressure on the plate module through 6 compression springs.

- ✧ It gives perfect sealing and avoids sample evaporation or overloading due to lid imbalance.

- ✧ The aluminium plate fits snugly on the PCR plate with a certain amount of pressure. This airtight seal prevents the cold air and hot air connection on the module. Thus, the module bears dynamic temperature uniformity.
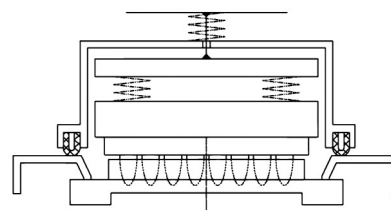
Unique PMT scanning system

The detection probe at the bottom of the unique scanning device effectively prevents interference of signal between two adjacent wells while reading a plate for well to well individual scanning.

a) Precise optical path system combined with sensitive PMT system detects fluorescence activity accurately.

b) Advanced fibre optical system and photomultiplier technology (PMT) is extremely sensitive and reliable.

c) The probe has a long-life LED light source which requires no maintenance.

Base Plate Parts
96%aluminum oxidc
aluminium nitride

Hot & Cold Base Plate Metallization
Copper,nickel,Gold

Metallization,Pre-tin
The melting point and the solder joint
In/Sn 118℃ Bi/Sn 138℃
Other welding material desig‑
nated

Moisture Proof Protection
RTV silica gel sealed
ethoxyline resin sealed
（to 80℃）

Conductor Wire
Normative:Teflon 133m
Optional:Bare wire or PVC
insulated wire
Length:Customer specified

- ✧ The new model of Thermo Electric (TE) base plate (72 series) has a longer life span.

- ✧ The new adhesive technology used with the advanced semi-conductor substrate:

  - ◆ Improves the performance of the TE base plate under highly humid conditions

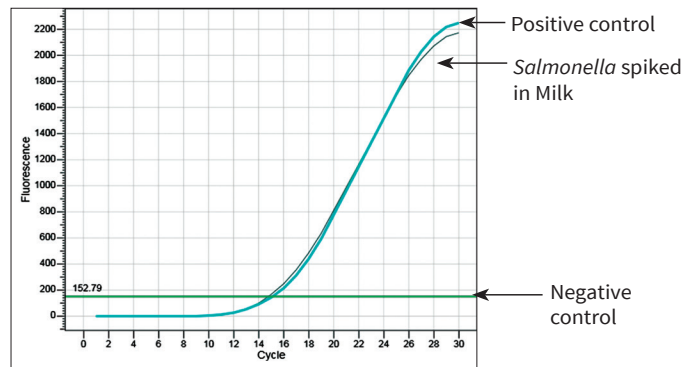 - ◆ Greatly improves the life span of the TE base plate

Food Diagnostics

Probe Based PCR Kits

MBPCR099	Salmonella Detection Kit (Real-Time PCR Kit Probe Based)

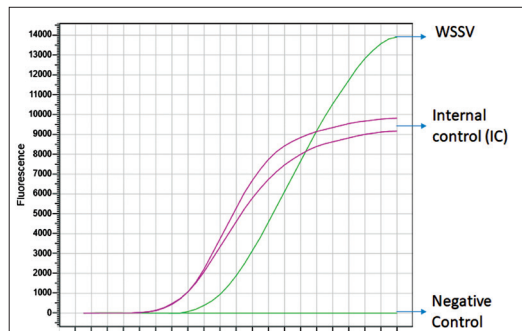| Sample	Ct value
Positive control	14.89
Salmonella spiked in milk	15.32
Negative control	N/A

Real-Time Probe Based PCR for *Salmonella* Detection in Spiked Milk (Code : MBPCR099)

MBPCR187 New	White Spot Syndrome Virus Detection Kit (WSSV) (Real-Time Probe Based PCR Kit)

Sample	Ct value	
Positive control	WSSV- 24.11	
	IC- 10.53	
Negative control	WSSV- NA	
	IC- 10.68	

**Real-Time Probe Based PCR Data for White Spot Syndrome Virus (WSSV) Detection (Code : MBPCR187)**

SYBr Based PCR Kits

MBPCR025A	Listeria monocytogenes Food Detection Kit (Real-Time SYBr Based PCR Kit)

Sample	Ct value
Positive control	9.96
L. monocytogenes spiked in milk	10.85, 10.81
Negative control	N/A

Real-Time SYBr Based PCR Data for *L. monocytogenes* Detection in Spiked Cheese (Code : MBPCR025A)
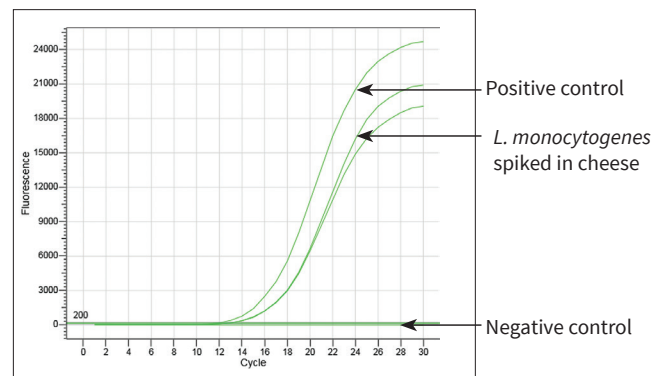
Probe & SYBr Based PCR Kits

MBPCR098	Pork Detection Kit (Real-Time SYBr Based PCR Kit)
MBPCR136	Pork Detection Kit (Real-Time Probe Based PCR Kit)

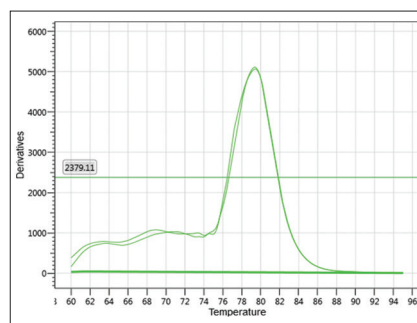|	
MBPCR141	Cow-Buffalo Detection Kit (Real-Time Probe Based PCR Kit)
MBPCR142 New	Cattle Sex Determination Kit (Real-time Probe Based PCR Kit)

Data for Pork Detection (Probe Based)
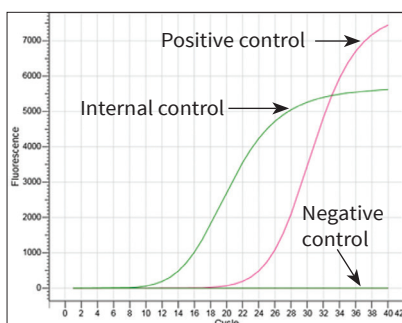
Sample	Ct value
Positive control	26.34
Internal control	17.29
Negative control	N/A

Data for Pork Detection (SYBr Based)
(Sensitivity : 0.01%)

Sample	Melt curve (°C)
Positive control	79.4
Positive control	79.4
Negative control	N/A

MBPCR138	Buffalo (Bubalus bubalis) Detection Kit (Real-Time Probe Based PCR)

MBPCR139	Cow (Bos taurus) Detection Kit (Real-Time Probe Based PCR)

Data for Buffalo Detection
(Code : MBPCR138)   (Sensitivity : 0.5%)
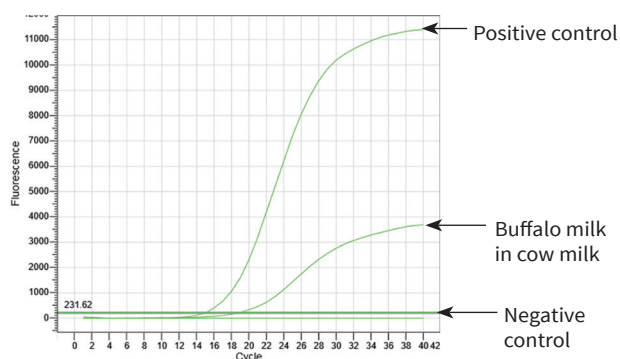
Sample	Ct value
Buffalo milk in cow milk	19.02
Positive control	15.15
Negative control	N/A

Data for Cow Detection
(Code : MBPCR139)
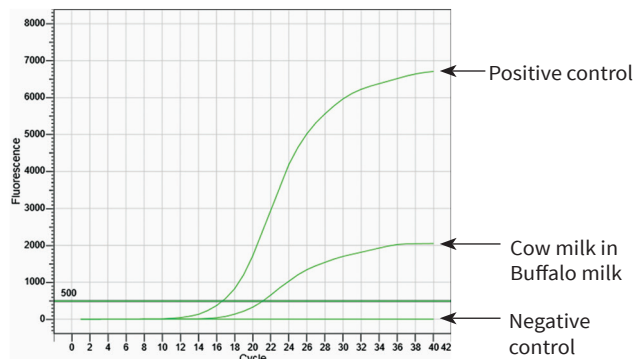
Sample	Ct value
Cow milk in Buffalo milk	21.2
Positive control	16.73
Negative control	N/A

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Clinical Diagnostics

MBPCR131 Extended Spectrum ß-Lactamases
New (ESBLs) Gene Detection Kit (Multiplex)
(Real-Time Probe Based PCR)
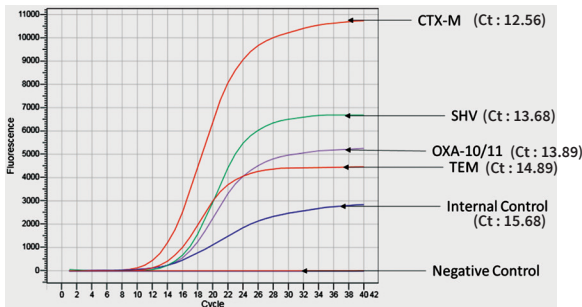
MBPCR105 Human Papilloma Virus (HPV)
Genotyping Kit (Multiplex)
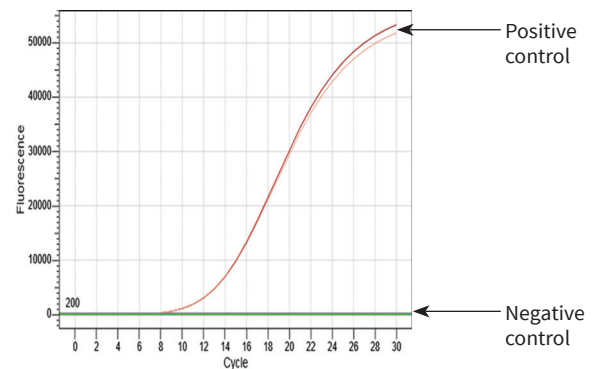(Real-Time Probe Based PCR)
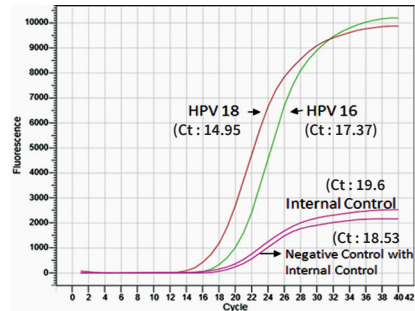
Veterinary Diagnostics

MBPCR129 Animal Hemorrhagic septicemia (HS)
Detection Kit
(Real-Time SYBr Based PCR Kit)

Sample	Ct value
Negative control	N/A
Positive control	09.45

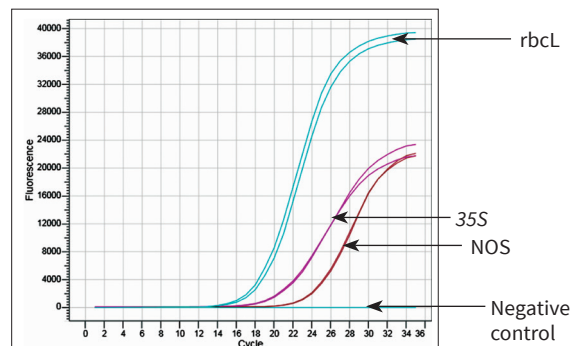Data for Hemorrhagic septicemia (HS) Detection
(Code : MBPCR129)

GMO Detection

MBPCR063 GMO (Genetically Modifed Organism)
Detection Kit (Real-Time PCR Based)

Gene	Ct value
35S	15.43, 15.98
NOS	20.19, 19.89
rbcL	13.9, 13.4
Negative Control	N/A

Data for GMO (Genetically Modifed Organism)
detection in cotton plant

Biopharma / Research Applications

Universal PCR Kits

|	
MBPCR087	16S rRNA PCR Kit (Real-Time PCR Kit)
MBPCR088	18S rRNA PCR Kit (Real-Time PCR Kit)
MBPCR097	Fungal ITS PCR Kit (Real-Time PCR Kit)
MBPCR015	Mycoplasma Detection Kit (Real Time PCR Kit)

Real-Time RT - PCR Kits

MBT128	Hi-Quanti One Step RT-PCR Kit (Real-Time PCR Based)
MBT181 New	Hi-Quanti One Step Probe Based RT-PCR

Data for Hepatitis A Virus (HAV) Detection using
Hi-Quanti One Step Probe Based RT-PCR (MBT181)
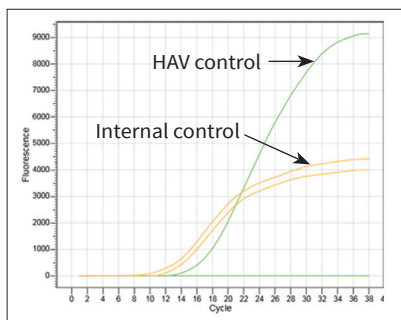
Sample	Melt curve
HAV control	15.27
Internal control	12.79
Negative control	N/A

Data for Chikungunya Virus Detection using
Hi-Quanti One Step RT-PCR Kit (MBT128)
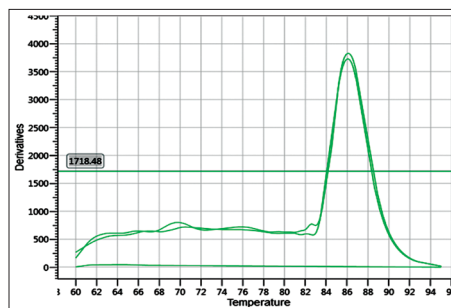
Sample	Melt curve
Positive control	86
Positive control	86
Negative control	N/A

Water & Beverage Diagnostics

Probe Based PCR Kits

MBT142	Legionella spp. Water Detection Kit
MBT146	Vibrio cholerae Water Detection Kit
MBT147	E.coli O157:H7 Water Detection Kit
MBT148	Salmonella Water Detection Kit

Data for Legionella spp. Detection in Water
(MBT142)
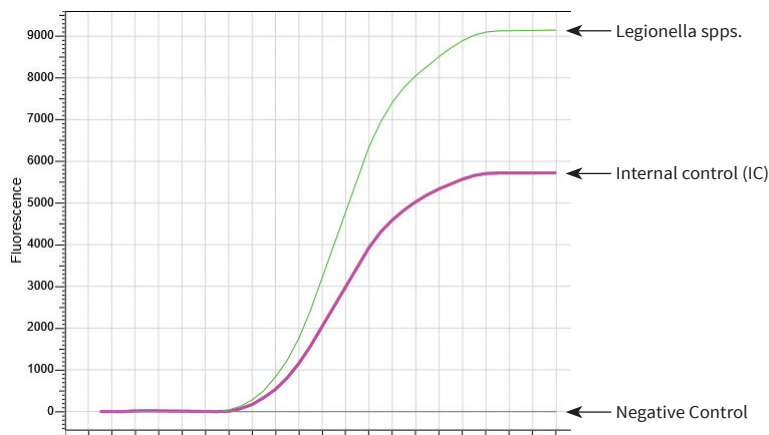
Sample	Ct value
Positive control	11.56
Internal Control	12.67
Negative control	N/A

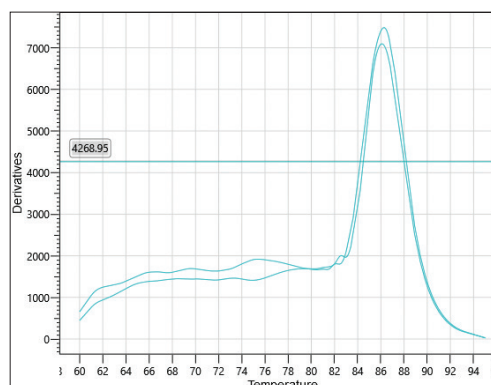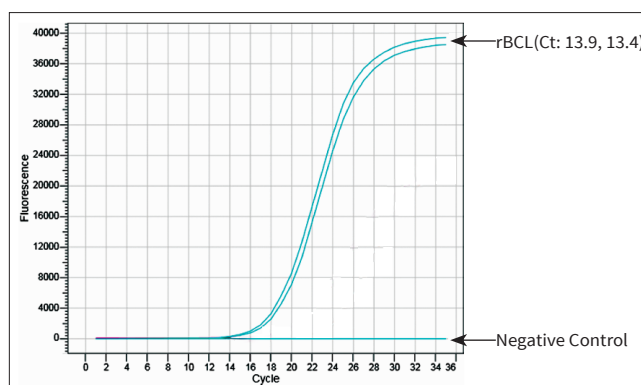# Universal Plant Identification

SYBr Based PCR Kits

MBPCR189 New   Plant Detection Kit (Real-Time SYBr Based Kit)

PCR of Sugarcane leaf using MBPCR189

Sample	Melt curve (°C)
rBCL	86.1
rBCL	86.3
Negative Control	N/A

Clinical Diagnostics

Probe Based PCR Kits

MBPCR099	Salmonella Detection Kit
MBPCR101	Generic Dengue Detection Kit
MBPCR105	HPV Detection Genotyping Kit (Multiplex)
MBPCR108	Mycobacterium Tuberculosis Detection Kit
MBPCR111	Malaria Detection Kit
MBPCR112	Chikungunya Detection Kit
MBPCR135	Plasmodium species Detection Kit
MBPCR140	Legionella species Detection Kit
MBPCR159	Bacterial Sepsis Pathogen Detection Kit
MBPCR131 New	Extended Spectrum b-Lactamases (ESBLs) Gene Detection Kit (Multiplex)
MBPCR132 New	Carbapenemase Gene Detection Kit (Multiplex)
MBPCR133 New	Methicillin Resistant Staphylococcus aureus (MRSA) Detection Kit (Multiplex)
MBPCR134 New	Vancomycin Resistant Enterococci (VRE) Detection Kit (Multiplex)
MBPCR148 New	Hepatitis A Virus (HAV) Detection Kit

SYBr Based PCR Kits

|	
MBPCR015	Mycoplasma Detection Kit
MBPCR017	Mycobacterium tuberculosis Detection Kit
MBPCR023	E. coli O157:H7 Detection Kit
MBPCR026	Campylobacter jejuni Detection Kit
MBPCR027	Vibrio cholerae Detection Kit
MBPCR029	Cronobacter sakazakii Detection Kit
MBPCR057	Klebsiella pneumoniae Detection Kit
MBPCR058	Pseudomonas aeruginosa Detection Kit
MBPCR059	Generic E.coli Detection Kit
MBPCR060	Candida albicans Detection Kit
MBPCR061	Bacillus subtilis Detection Kit
MBPCR062	Shigella spp. Detection Kit
MBPCR064	Staphylococcus aureus Detection Kit
MBPCR065	Acinetobacter baumanni Detection Kit
MBPCR083	Chikungunya Detection Kit
MBPCR092	Malaria Detection Kit (Real-Time)
MBPCR103	Generic Dengue Detection Kit

Veterinary Diagnostics

SYBr Based PCR Kits

MBPCR129	Animal Hemorrhagic septicemia (HS) Detection Kit
MBPCR121	Animal Brucella Detection Kit
MBPCR122	Animal Mycoplasma gallisepticum Detection Kit
MBPCR123	Animal Theileria Detection Kit
MBPCR124	Animal Peste des petits ruminants (PPR) Detection Kit
MBPCR125	Animal Babesia bigemina Detection Kit
MBPCR126	Animal Newcastle Disease Virus (NDV) Detection Kit
MBPCR127	Animal Pox Detection Kit
MBPCR128	Animal Infectious Bovine Rhinotracheitis (IBR) Detection Kit

Probe Based PCR Kits

MBPCR169 New	Animal Hemorrhagic septicemia (HS) Detection Kit
MBPCR162 New	Animal Brucella Detection Kit
MBPCR165 New	Animal Theileria Detection Kit
MBPCR168 New	Animal Peste des petits ruminants (PPR) Detection Kit
MBPCR166 New	Animal Newcastle Disease Virus (NDV) Detection Kit
MBPCR163 New	Animal Pox Detection Kit
MBPCR164 New	Animal Infectious Bovine Rhinotracheitis (IBR) Detection Kit

Animal Infectious Bovine Rhinotracheitis (IBR) Detection by Real-Time PCR (MBPCR164)
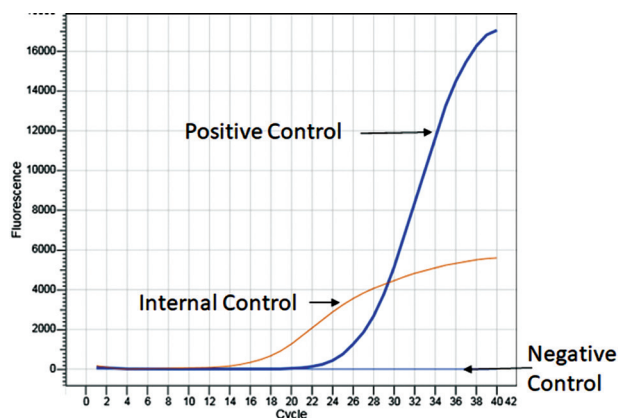
Sample	Ct value
Positive Control (DNA extracted using MB522)	24.93
Internal Control	20.68
Negative control	NA

Insta Q48 m

HiMEDIA

Technical Parameters of the Product

Product Name	Insta Q48™ Real-Time PCR Detection System	
Product Code	LA1023	LA1024
No. of channels	4	2
Multiplexing	4 color	2 color
Sample Capacity	48-well PCR, 8 Strip tubes, 48x0.2ml tube (Bottom Transparent)	
Dynamic Range	1~10^{10} Copies	
Excitation Wavelength	450-700nm	450-550nm
Emission Wavelength	500-700nm	500-600nm
Detected Flourescence	F1: FAM, SYBR Green I F2: VIC, HEX, TET, JOE F3: ROX, TEXAS-RED F4: CY5	F1: FAM, SYBR Green I F2: VIC, HEX, TET, JOE
Passive reference dye	**ROX or other dye not required (optional)**	
Block Temp. Range	4~105°C (Minimum Increment 0.1°C) Soak Low Temperature, Conservation Function	
Heating / Cooling Rate	4.0°C/s (max)	
Temp. Control Accuracy	≤ ± 0.1°C	
Temp. Fluctuation	≤ ± 0.1°C	
Temp. Uniformity	≤ ± 0.3°C(Tested at 55°C)	
Temp. Control Mode	Block / Tube Simulation Mode (Automatic Control Based On Sample Volume)	
Sample Volume Range	5~100µl	
Gradient Temp. Range	3 Temperature controlled blocks in the range of (Maximum) ±6°C	
Hot-Lid Temp. Range	30~110°C (Adjustable Default 105°C), **Automatic Hot-Lid**	
Flourescence Detection Repeatability	Within 5%	
Scan Mode	Entire Plate	
Program	Max 20 Segments for each Program, Max 99 Cycles	
Operation Mode	Continuous	
Scan Period	2 seconds	3.5 secsonds
Feature Function	• Absolute Quantification • **Automatic Data Analysis** • Melt Curve • Genotyping • Gradient • Correction • Customized Parameters	• Relative Quantification • Multi-Channel Crosstalk Correction • HRM • SNP Analysis • Background • **Automatic Gain** • **No passive reference dye required**
Operating System	Microsoft: Windows 7/ Windows 8.1/ Windows 10, Software: Excel 2000/2002/2003/2007/2012	
PC Configuration	Memory: 4GB RAM, Hard Disk: 500GB, CPU: Intel i3 & latest, Virtual Memory: ≥ 1000MB	
Power Supply	100 - 240V ~ 50/60Hz 600W	
Dimensions (LxWxH) / Weight	384 x 353 x 348 / 15 kg	
Socket	USB Adapter, Bluetooth Adapter	
Certifications	**Ferrotec Peltier, CE, EMC, RoHS2, IVD**	

Technical Parameters of the Product

Product Name	Insta Q96® Plus	Insta Q96® - 6.0
Product Code	LA1073	LA1074
No. of channels	5	6
Multiplexing	5 Color	6 Color
Sample Capacity	96-Well PCR plate, 12x8 Strip, 96x0.2ml (Bottom Transparent)	
Dynamic Range	1~10^{10} Copies	
Excitation Wavelength	300-800nm	
Emission Wavelength	500-800nm	
Detected Flourescence	F1: FAM, SYBR F2: HEX, TET, JOE, VIC F3: ROX, TEXAS-RED F4: CY5 F5: CY5.5	F1: FAM, SYBR F2: HEX, TET, VIC, JOE, NIC F3: ROX, TEXAS-RED F4: CY5 F5: CY5.5 F6: CY3, NED, TAMRA
Passive reference dye	Rox or other dye not required (optional)	
Block Temp. Range	4~105°C (Minimum Increment 0.1°C) Soak Low Temperature, Conservation Function	
Heating / Cooling Rate	4.0°C/s (max)	
Temp. Control Accuracy	≤ ± 0.1°C	
Temp. Fluctuation	≤ ± 0.1°C	
Temp. Uniformity	≤ ± 0.3°C	
Temp. Control Mode	Block / Tube Simulation Mode (Automatic Control Based On Sample Volume)	
Sample Volume Range	5~100µl	
Gradient Temp. Range	1~36°C	
Hot-Lid Temp. Range	30~110°C (Adjustable Default 105°C), **Automatic Hot-Lid**	
Flourescence Detection Repeatability	Within 5%	
Scan Mode	Entire Plate or Designated Line	
Run Time	Max 20 Segments for each Program, Max 99 Cycles	
Operation Mode	Continuous	
Scan Period	5.5 seconds	
Feature Function	• Absolute Quantification • **Automatic Data Analysis** • Melt Curve • Genotyping • Gradient • Correction • Customized Parameters	• Relative Quantification • Multi-Channel Crosstalk Correction • HRM • SNP Analysis • Background • **Automatic Gain** • **No passive reference dye required**
Operating System	Microsoft: Windows 7/ Windows 8.1/ Windows 10, Software: Excel 2000/2002/2003/2007/2012	
PC Configuration	Memory: 4GB RAM, Hard Disk: 500GB, CPU: Intel i3 & latest, Virtual Memory: ≥ 1000MB	
Power Supply	100 - 240V ~ 50/60Hz 600W	
Dimensions (LxWxH)/ Weight	410mm x 386mm x 352mm / 28 kg	
Socket	USB Adapter, Bluetooth Adapter	
Certifications	**Ferrotec Peltier, CE, EMC, RoHS2, IVD**	

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