

PRODUCT DESCRIPTION

IRTP96-X4/5 is 96-wells Real-Time Quantitative PCR system. Based on innovative signal gathering and spectrum separation technology, together with unique temperature control technology, it reached an advanced level in terms of detection sensitivity, multi-color crosstalk correction, temperature uniformity and accuracy. The instrument is available with a 4-channel or a 5-channel configuration and is compatible with a wide spectrum of qPCR dye-based and probe-based chemistry, easily realizing multiplex PCR applications. The instrument supports standard analysis methods like absolute quantification, genotype, HRM, MMCA, and gene expressing analysis.

PRODUCT FEATURE

Fast and Precise Thermal Cycling

High-efficiency gold-plated Peltier provides heating and cooling rate up to 6°C/s, completing 45 cycle amplification within 30 minutes;

Innovative alloy block design provides high temperature uniformity of $\pm 0.2^{\circ}\text{C}$. The auxiliary heating plate effectively reduce the edge effect.

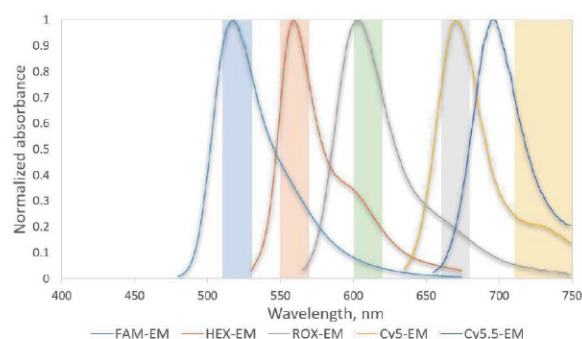
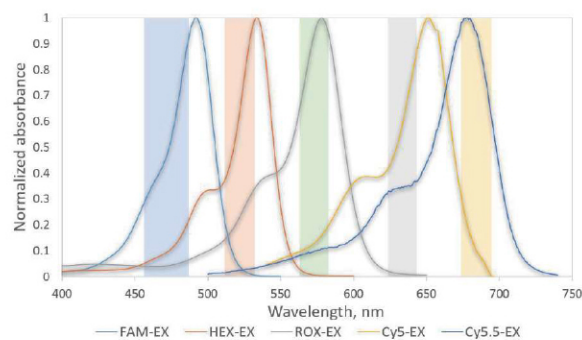
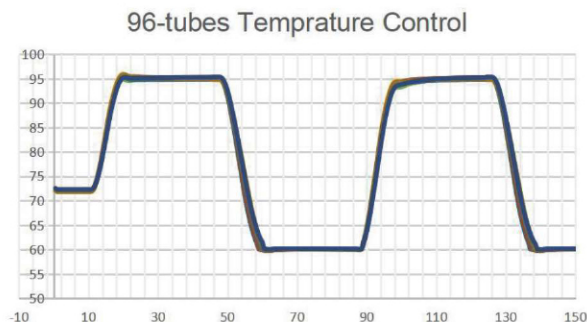
Innovative Optic Design

Based on confocal scanning fluorescence detection technology, it can effectively remove the interference of background light and excitation light, obtain fluorescent signals with a high signal-to-noise ratio, and save the use of fluorescent probes and dyes.

High-performance, long-life single-color LEDs are used as excitation light sources, without thermal attenuation, and maintenance-free for life.

High-performance silicon PMT can obtain high fluorescence signals under weak excitation light and reduce photobleaching.

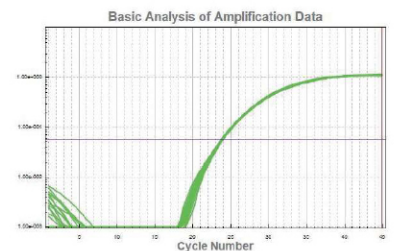
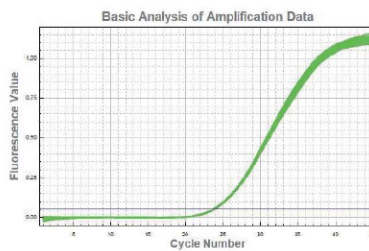
The instrument uses linear fluorescence time-sharing scanning technology to ensure the uniformity of all fluorescence acquisitions, improving the accuracy and uniformity of CT. Thereby, the edge effects is effectively reduced and ROX calibration is not required.





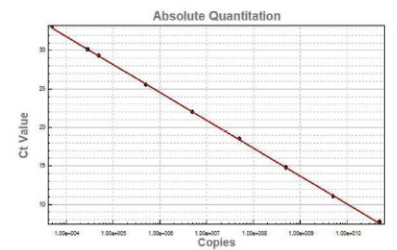
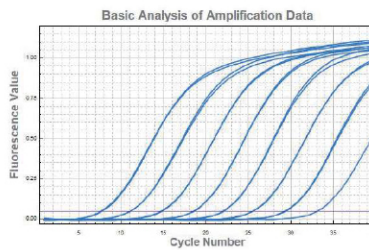
Excellent Reproducibility

Robust design ensures superior uniformity from run to run. Amplification curves for 96 replicates shown on a linear plot a logarithmic plot. Average quantification cycle (C_q) = 24 ± 0.10.



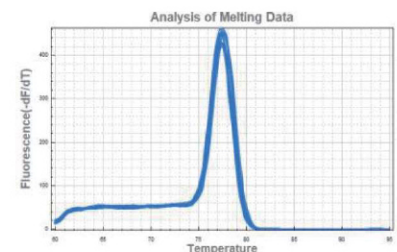
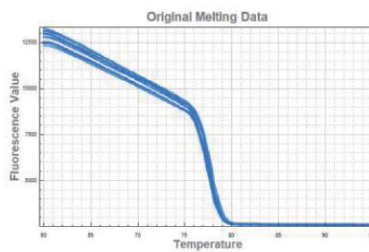
Up to 10-log dynamic range

Results on the IRTP96-X4/5 System show excellent reproducibility and resolution down to very low copy numbers.



Melting Curve Analysis

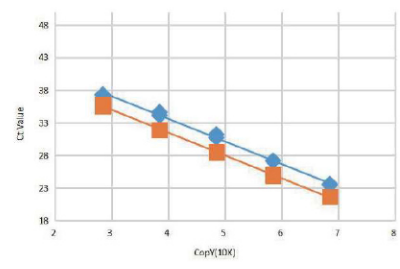
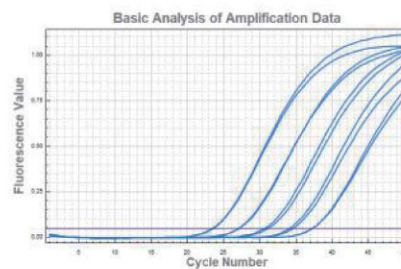
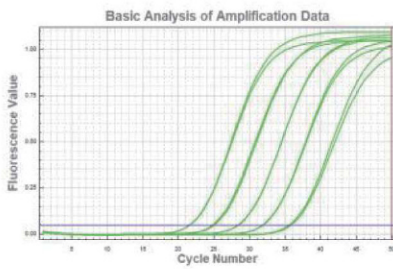
96 replicates of human genomic DNA were amplified using SYBR reagent. The reactions were run under fast run mode, showing thermal uniformity as measured by the derivative peak with a melting temperature (T_m) of 77.5°C (standard deviation 0.05°C).





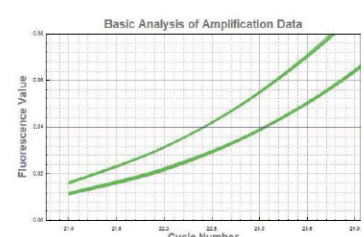
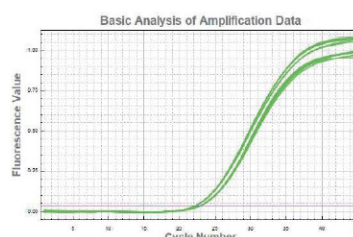
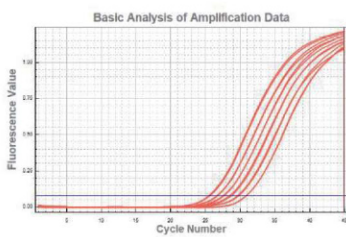
High Efficiency in Multiplex

The system enables the analysis of target genes using a standard curve. It provides 10-fold dynamic range and gives excellent linearity and efficiency of 100%.



High Resolution

The excellent uniformity of temperature together with quick detection of data guarantee the reaction temperature and time to be identical between different tubes, so it can reliably detect 1.33-fold differences in target amount. The figure 1 shows the curve of 6 gradient dilutions in 2X. The figure 2 and 3 shows the curve of 1.5X dilutions.



SPECIFICATION OF THE INSTRUMENT

Thermal Control System	
Sample capacity	8*0.1mL PCR strip*12 96*0.1mL individual tube 0.1mL PCR Plate
Sample volume	10-50 μ L
Heating and Cooling method	Peltier
Maximum ramping rate	6.0° C/s
Temperature range	4-100 °C
Temperature accuracy	\pm 0.2°C
Temperature uniformity	\pm 0.2°C@60°C \pm 0.3°C@95°C
Optical Detecting System	
Excitation light	4/5pcs high-efficiency single color LED
Detector	SiPMT
Detection method	Time-resolved real-time scanning
Excitation/Emission wavelengths	455-650nm/510-750nm
Detection Channels	4 (optional 5 channels)
Supported dyes	FAM/SYBR Green, VIC/JOE/HEX/TET, ROX/Texas Red, Cy5/LIZ, (Optional- Cy5.5 for 5-channel model)
Multiplexing	Up to 4 targets (optional 5 targets for 5-channel model)
Sensitivity	1 copy gene
Resolution	1.33-fold copies difference in single-plex reaction
Dynamic range	10 orders of magnitude
Analysis Mode	
absolute quantification and melting curve analysis	
Data Export	
the original result, data and result in excel, program setting, amplification curve image	

STANDARD COMPLIANCE

The structure of the instrument complies with the following safety standards:
EN 61010-1/EN 61010-2-010/EN 61010-2-101
The structure of the instrument complies with the following electromagnetic compatibility standards:
EN 61326-1:2012/EN 61326-2-6:2012
The instrument complied with the following EU standards:
EMC guidelines:2004/108/EC
LVD guidelines: 2006/95/EC

Qingdao Innova Bio-Meditech Co., Ltd.

Add: 1212, Building #5, No.176 JuFeng Road,

Licang district, Qingdao,China

Tel.: +86 532 8789 0634

Email: info@innobiomed.com

Web: www.innovabiomed.com