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Quantitative Real-time PCR system

(ZIP-96V)

Molecular

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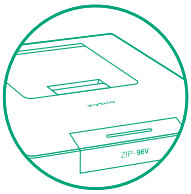
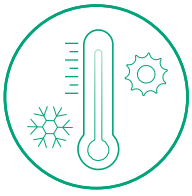
Quantitative real-time PCR system ZIP-96V is 96-well real-time PCR instrument based on Fresnel lens optical signal acquisition technology, time-resolved signal separation technology and unique temperature control technology. It is designed for multiple fields of basic research in medicine and biology, such as pathogen detection, genotyping, gene therapy drug, gene expression, food safety testing, public health, animal health, etc.

Features



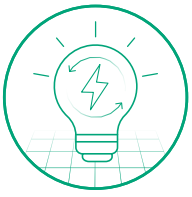
User-friendly for first-time and experienced operators

- No ROX correction required
- Preset projects, such as COVID-19, influenza A/B project



Advanced temperature control block

- The high-level peltier chip combined with a new generation of semiconductor heating and cooling technology greatly improves the heating and cooling rate, and the heating rate can reach up to 6˚C/s
- Six independent temperature control blocks improve the accuracy and uniformity of temperature control



Excellent optical system

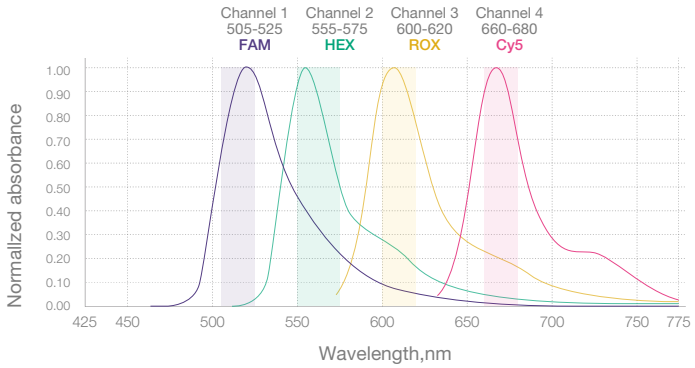
- Use high efficiency LEDs light source, maintenance-free for life
- Unique test tube side daylighting technology, four-channel fast daylighting only takes 20s, automatically adjusts gain, improves the fluorescence signal sensitivity and signal to noise ratio
- Unique time-resolved signal separation technology, no multi-color crosstalk

Multiple Applications

- Basic scientific research
- Pathogen detection
- Genotyping
- Gene therapy drug
- Gene expression
- Food safety testing
- Public health
- Animal health

Four fluorescence Channels, support most of common dyes

Detection Reporter dye:



Technical parameters

Basic parameters	
Model	ZIP-96V
Dimensions(W×D×H, mm)	425*320*205
Weight	13.5Kg
Throughput	Up to 96 tests per run
Reaction volume	20-100μL
Sample Format	0.2ml PCR tube/
	8-strip PCR tube/ 96-well plate
Supported dye	Channel 1: FAM
	Channel 2: VIC, HEX
	Channel 3: ROX
	Channel 4: CY5
Fluorescent channels	4 detection channels
Thermal cycle technology	
Temperature control	Peltier
Temperature control block	6 blocks
Temperature range	4~99℃
Average heating rate	> 2.5℃/s
Average cooling rate	> 2.0℃/s
Temperature fluctuation	± 1℃
Temperature accuracy	≤ ±0.5℃
Hot-lid temperature range	30~110℃

Optical system	
Excitation light source	High efficiency LEDs
Detector	Photodiode
Excitation wavelength	460nm~480nm, 525nm~545nm,
	575nm~595nm ， 600nm~620nm
Emission wavelength	505nm~525nm, 555nm~575nm,
	600nm~620nm ， 660nm~680nm
Fluorescence repeatability	< 2%
Fluorescence linear	r > 0.99
Software	
Applications	Qualitative/
	Absolute Quantification Analysis
Scan mode	All-channel scanning
Data export	Excel
Report	Multiple printing templates/
	customized template
Working Environment	
Power supply	100-240 V AC，50-60 Hz
Operating system	Windows 7/10
Interface	USB
Working Temperature	10-30°C
Working Humidity	20-85 %

Classic Examples

SARS-CoV-2 Nucleic Acid Detection (PCR-Fluorescent Probe Method) qPCR technology was used to detect and diagnose suspected case of COVID-19.

- **Detection kit:**
  SARS-CoV-2 nucleic acid detection kit (Zybio)

- **Isolation kit and system:**
  nucleic acid extraction kit (Zybio), nucleic acid isolation system EXM3000 (Zybio)

- **Assay method**:
  Take 200μL of sample (throat swab preservation solution) to be tested, and extract RNA from the sample with nucleic acid extraction kit and isolation system EXM3000. According to the instruction of nucleic acid detection kit, mix extracted RNA, the positive control product, and the negative control product with PCR reaction solution and enzyme respectively, mix well and centrifuge and then do amplification and detection.

- **Amplification parameters**:

Steps		Temperature	Time	Cycle
1	UNG reaction	37°C	1 min	1
2	Reverse transcription	50°C	5 min	1
3	Initial denaturation	95°C	2 min	1
4	Denaturation	95°C	5 sec	45
5	Amplification and fluorescence detection	60°C	30 sec	

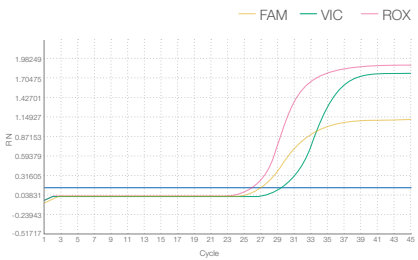
Fluorescence Detection: Step 5.

Report Fluorescence Setting: FAM, ROX, VIC;

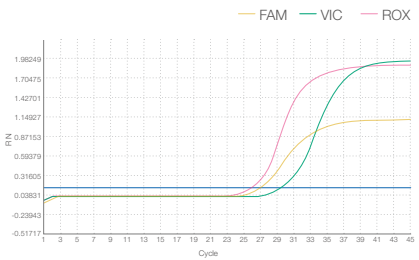
Quenching Fluorescence Setting: None; Passive Reference Setting: None.

- **Cut-off Value:**
  result is clamed positive when the Ct of two targets (FAM, ROX) <40.

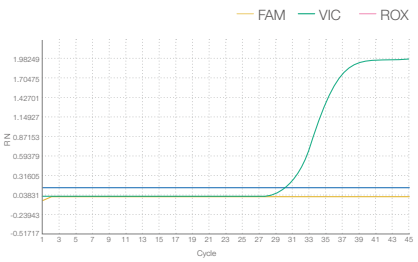
- **Result analysis:**
  Positive control and negative control are normal, sample to be tested is positive.The corresponding amplification curves are as follows:



Sample to be tested



Positive control



Negative control

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