
Real-time PCR System

Esan-Gene 496 / 696



More Flexible

More Accurate

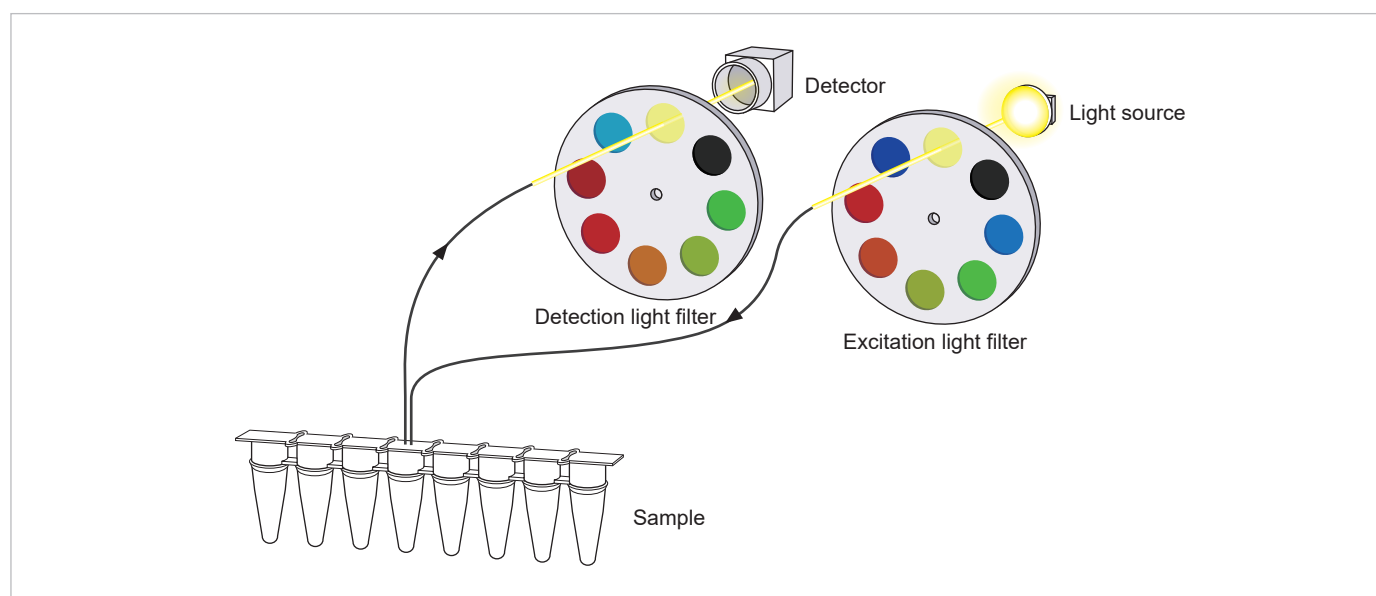
More Efficient

Esan-Gene 496 / 696 real-time PCR system adopts mature thermoelectric refrigeration technology, brand-new light source and light path design. The unique constant-current power and multi-zone independent temperature control method ensure more rapid, correct and stable fluorescence quantitative analysis of the product, while maintaining its excellent performance in low energy consumption. The product is modularized with various configurations to choose from. Meanwhile, it has been added with functions including independent temperature control, low-temperature storage of sample at 4 °C, and automatic dehumidification.

It's mainly applied in gene expression, genotyping (detection), cloning, mutation, methylation analysis, sequencing, medicine, forensic medicine and applied science.



01 CMOS Imaging Photoelectric Detection



- Top imaging technology was adopted to collect 96-well fluorescent signals without detection time difference. Fast detection, single channel detection need only 1 second.
- Long-life LED light source: adopting maintenance-free long-life LED light source, no need to replace the light source regularly, and the light intensity distribution is uniform.
- The excitation and detection channels adopt independent filter wheels. The filter can be switched quickly, and the channels can be freely combined, which can cope with multiple detection experiments without expanding the channel.
- Using optical fiber conduction to improve the fluorescence signal strength, reduce the optical conduction loss, and eliminate the edge effect in the optical path.

Dye
×

Dye name

Channel

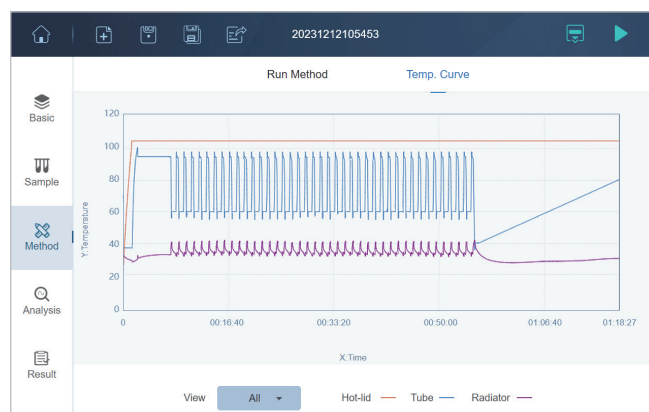
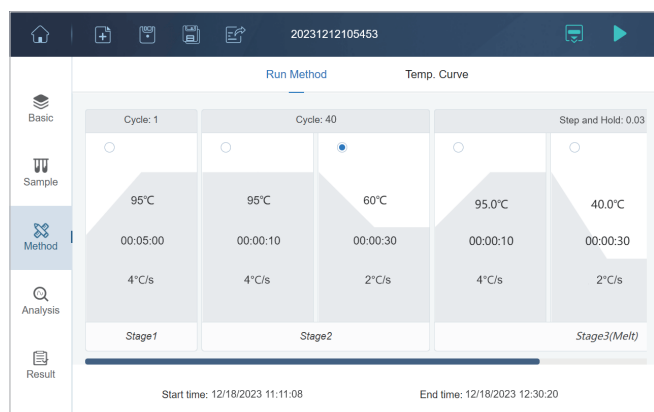
☒ CH1:(470-520nm)
☐ CH2:(530-565nm)

☐ CH3:(570-615nm)
☐ CH3:(630-665nm)

☐ CH5:(685-725nm)
☐ CH6:(470-615nm)

OK
Cancel

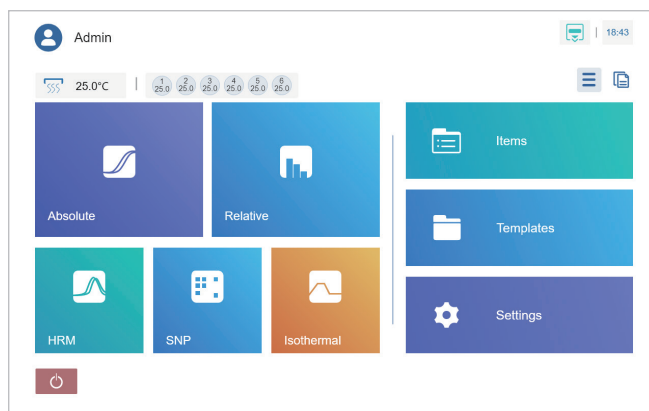
02 Precise Temperature Control Technology



- The multi-zone thermal cycle block has precise independent temperature control and unique block temperature compensation technology. It can set different reaction conditions, with fast reaction speed, high temperature uniformity, and fast heating speed.
- The thermo lid is adjustable with high sealing to prevent reagent volatilization.
- Equipped with consumable placement inspection function, automatic pop-up sample warehouse design, and unique anti-pinch design, improving the safety of use.

03 Humanized Software

- Real-time monitoring, automatic distinguishing and calculation of positive and negative results, meeting various analysis modes such as qualitative / quantitative, genotyping, isothermal amplification, melting curve, etc.
- 10.1-inch touch screen with Windows system, can complete settings, detection, analysis, saving and other operations. The operation is simple and fast, without the need to connect to PC, saving space. Equipped with USB and network port for easy data export and greater flexibility.
- The innovative Ct value algorithm uses the linear fitting method of multi-derivative feature points to calculate the Ct value without the need for reference dyes, optimizing the experimental process and improving the experimental efficiency.
- Unique optical path ROI region identification algorithm, can achieve automatic instrument ROI calibration and optical fiber position inspection.



20240117152103>Analysis>Analysis Settings

Ct settings		Advanced settings		Standard Curve		Melt settings		CTK settings	
Items	Dye	Threshold	Start cycle	End cycle					
TEST	SYBR Green I	Auto	2	15	<input checked="" type="checkbox"/> Automatic Threshold	Threshold: 0			
TEST	TET	Auto	2	15	<input checked="" type="checkbox"/> Automatic Baseline	Start cycle: 2			
TEST	TEXAS-RED	Auto	2	15		End cycle: 15			
TEST	CY5	Auto	2	15					
TEST	Cy5.5	Auto	2	15					
TEST	Alto425	Auto	2	15					

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Type: CH1		Layout												Table	
		1	2	3	4	5	6	7	8	9	10	11	12	Items	Sample
A	U	U	U	U	U	U	U	U	U	U	U	U	U	123-1	U
B	U	U	U	U	U	U	U	U	U	U	U	U	U		
C	U	U	U	U	U	U	U	U	U	U	U	U	U		
D	U	U	U	U	U	U	U	U	U	U	U	U	U		
E	U	U	U	U	U	U	U	U	U	U	U	U	U		
F	U	U	U	U	U	U	U	U	U	U	U	U	U		
G	U	U	U	U	U	U	U	U	U	U	U	U	U		
H	U	U	U	U	U	U	U	U	U	U	U	U	U		

Conc unit: copies/ml

Specification

	Esan-Gene 496 / 496A	Esan-Gene 696 / 696A
Detection channel / applied dyes	F1: FAM, SYBR Green I, etc. F2: HEX, JOE, VIC, etc. F3: ROX, TEXAS-RED F4: Cy5, Quasar-670	F1: FAM, SYBR Green I, etc. F2: HEX, JOE, VIC, etc. F3: ROX, TEXAS-RED F4: Cy5, Quasar-670 F5: Cy5.5 F6: Can be customized, default is FRET

Applicable centrifuge tube (496 / 696)	0.2 mL 96-well plate, single tube, 8-strip tube
Applicable centrifuge tube (496A / 696A)	0.1 mL 96-well plate, single tube, 8-strip tube
Sample system size	10~100 μ L
Linear range	$10^0 \sim 10^{10}$ Copies/ μ L
Min. detection range	1 Copy
Excitation light source	High power white LED
Detecting element	High-performance CMOS
Ct repeatability	CV \leq 1 %
Sample linearity (Ct)	$ r \geq 0.999$
Temp. range	4~99.9 $^{\circ}$ C
Temp. control mode	Block control / tube control
Average heating rate	3.5 $^{\circ}$ C/s
Average cooling rate	2.5 $^{\circ}$ C/s

Temp. uniformity	± 0.2 $^{\circ}$ C @95 $^{\circ}$ C
Temp. accuracy	± 0.15 $^{\circ}$ C
Temp. control precision	0.1 $^{\circ}$ C
Melting temp.	Minimum differentiation 0.1 $^{\circ}$ C
Gradient mode	6 gradient temperature control
Gradient temp. range	1~40 $^{\circ}$ C
Thermo lid temp.	30~110 $^{\circ}$ C
Display screen	10.1-inch touch screen
Dimension (W*D*H)	298 mm \times 530 mm \times 430 mm
Input power	100~240 VAC 50~60 Hz
External port	USB (Type A) \times 3, LAN \times 1
Wireless function	Expandable wireless transmission function, support LIS function
Data export format	Excel, PDF

Ordering Information

Code	Product name
AS-30050-00	Esan-Gene 496 real-time PCR system, suitable for 0.2 mL centrifuge tube
AS-30060-00	Esan-Gene 696 real-time PCR system, suitable for 0.2 mL centrifuge tube
AS-30070-00	Esan-Gene 496A real-time PCR system, suitable for 0.1 mL centrifuge tube
AS-30080-00	Esan-Gene 696A real-time PCR system, suitable for 0.1 mL centrifuge tube

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