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QuantGene 9600

Fluorescent Quantitative Detection System



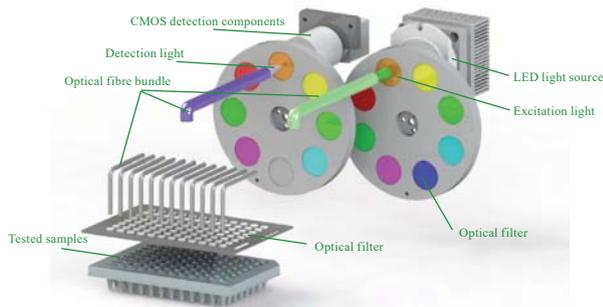
CE EMC

► Product Description

QuantGene 9600 is based on the excellent quality of the LineGene family, using the very mature thermoelectric refrigeration technology, a new light source and optical circuit design. The unique constant current power supply and 6-zone independent temperature control method ensure that the product is fast, accurate and stable in fluorescence quantitative analysis. The product adopts modular design, with a variety of configuration options, at the same time, the addition of temperature gradient, sample 4°C cryopreservation, automatic dehumidification and other functions, fully meet the scientific research and clinical medical needs.



► Product Features



Top 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;
- A new array of flat-field light source can greatly improve the excitation optical effect and enhance the fluorescence signal;
- The excitation and detection channels adopt independent filter wheels, which can cope with secondary excitation detection experiments without expanding the channel, such as the application of double hybrid probe;
- The cluster conduction design of high-end optical fiber is adopted to improve the fluorescence signal strength, reduce the optical conduction loss, and eliminate the edge optical path difference without calibration.



6 partition thermal cycling module

- The use of 72 series long life semiconductor refrigeration (Ferrotec Peltier), its life is three times higher than that of traditional TE;
- Micro heat pipe array technology, improve the heat conduction efficiency;
- 6 partition accurate and independent temperature control, improve the reaction speed;
- High temperature uniformity, fast ramping speed;

Automatic pop-up sample bin

- Automatic pop-up sample warehouse design, easy to operate.

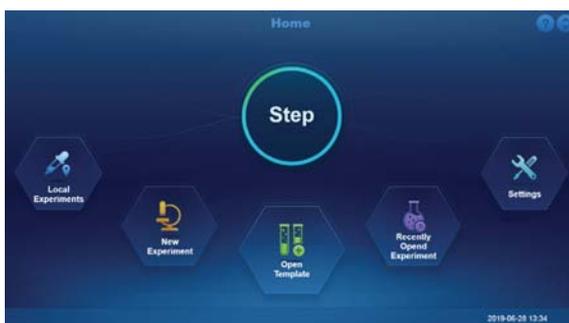


Intelligent adjustable hot cover

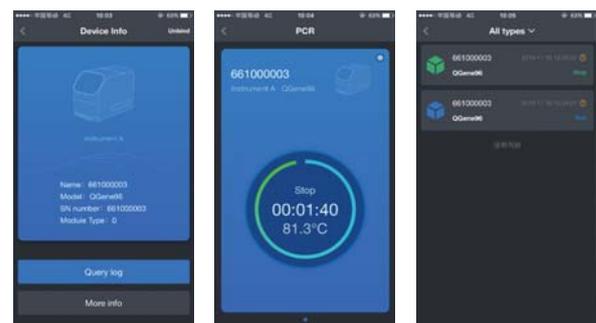
- Built-in high sealing hot cover to avoid reagent volatilization;
- The hot cover can be automatically adjusted to fit various kinds of test tubes.

Full adaptable software system

- Large touch screen software operation, new humanized operation interface, greatly improve customer's experience;
- Equipped with mobile phone/tablet APP to realize remote operation and real-time monitoring by users;
- The new UI design of international standards, to adapt to the mainstream market users at home and abroad operating habits;
- Flexible program setting, comprehensive analysis and reporting functions, all parameters can be stored;
- Intelligent software system, no need for debugging gain, wide range of linear analysis, good reproducibility of experimental results.



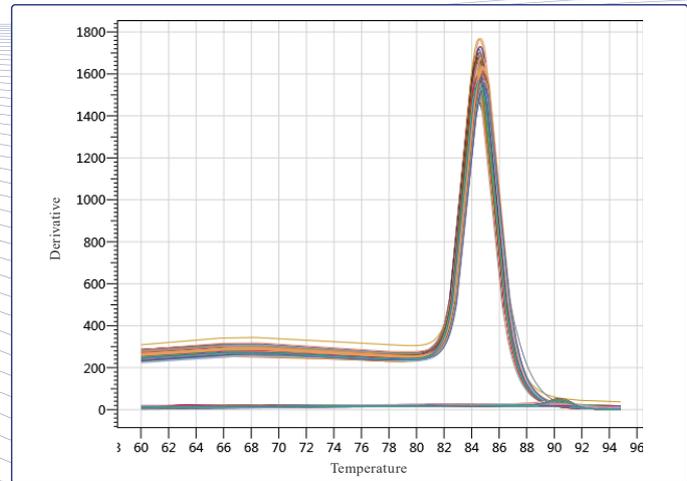
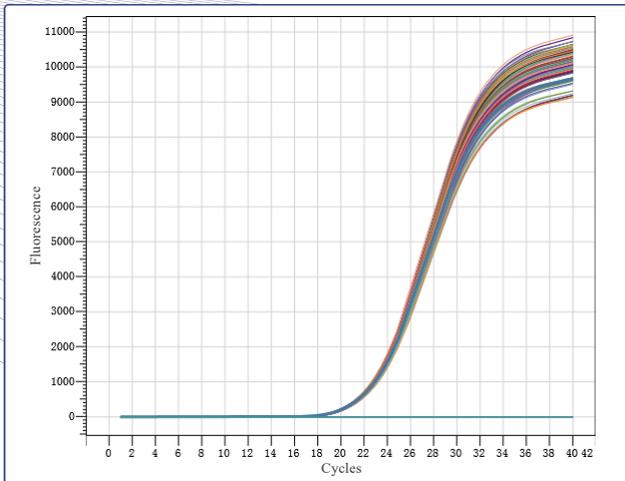
Touch version software



APP software

► CASES

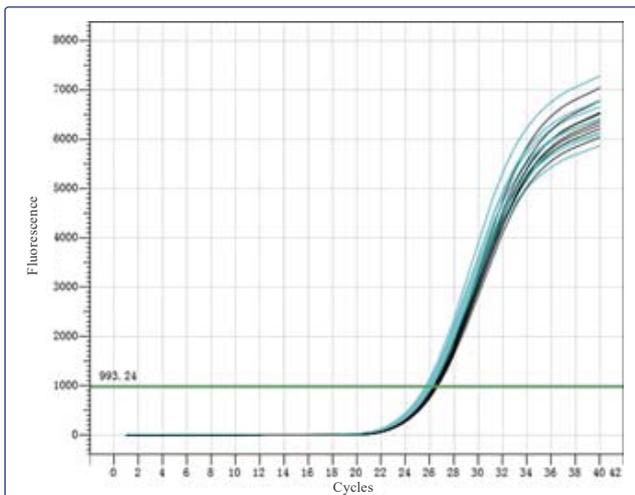
Case 1: Absolute quantification---- Fluorescence detection consistency test



| Ct value | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 24.48 | 24.45 | 24.46 | 24.51 | 24.4 | 24.44 | 24.37 | 24.35 | 24.33 | 24.36 | 24.43 | 24.4 |
| B | 24.4 | 24.47 | 24.4 | 24.43 | 24.38 | 24.43 | 24.44 | 24.48 | 24.43 | 24.44 | 24.39 | 24.4 |
| C | 24.45 | 24.49 | 24.43 | 24.35 | 24.49 | 24.38 | 24.32 | 24.46 | 24.4 | 24.45 | 24.43 | 24.34 |
| D | 24.44 | 24.51 | 24.4 | 24.41 | 24.36 | 24.43 | 24.3 | 24.39 | 24.41 | 24.46 | 24.44 | 24.43 |
| E | 24.46 | 24.37 | 24.45 | 24.41 | 24.36 | 24.3 | 24.41 | 24.51 | 24.32 | 24.43 | 24.38 | 24.37 |
| F | 24.37 | 24.43 | 24.43 | 24.37 | 24.42 | 24.38 | 24.38 | 24.35 | 24.35 | 24.35 | 24.39 | 24.39 |
| G | 24.35 | 24.39 | 24.5 | 24.34 | 24.37 | 24.44 | 24.45 | 24.45 | 24.42 | 24.32 | 24.37 | 24.47 |
| H | 24.4 | 24.42 | 24.37 | 24.37 | 24.44 | 24.42 | 24.37 | 24.32 | 24.47 | 24.42 | 24.39 | 24.36 |

Test summary: The test data of 96 samples shown in the figure above were analyzed according to the baseline threshold method: avgCt=24.40667, std=0.049133, and CV=0.2%, indicating that QuantGene 9600 real-time fluorescence quantitative PCR analyzer had very good repeatability in fluorescence detection wells.

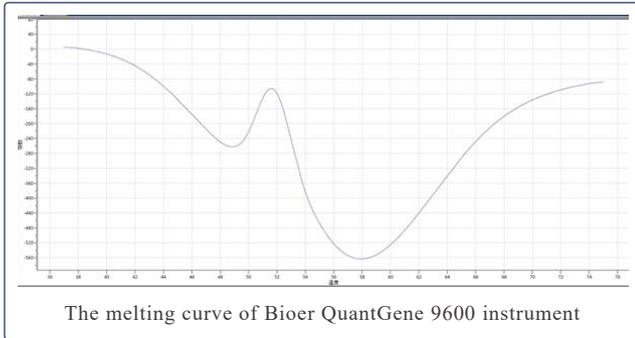
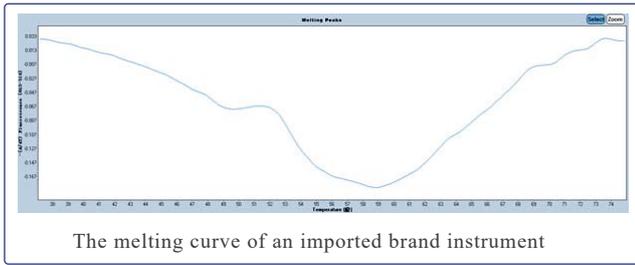
Case 2: Absolute quantification-fluorescence detection sensitivity test



| Serial number | 1.5 x concentration Ct value (blue curve) | 1 x concentration Ct value (black curve) | Ct differential |
|----------------|---|--|-----------------|
| 1 | 26.39 | 26.65 | 0.26 |
| 2 | 25.92 | 26.77 | 0.85 |
| 3 | 26.16 | 26.7 | 0.54 |
| 4 | 26.1 | 26.52 | 0.42 |
| 5 | 26.15 | 26.79 | 0.64 |
| 6 | 26.24 | 26.62 | 0.38 |
| 7 | 26.08 | 26.79 | 0.71 |
| 8 | 25.92 | 26.88 | 0.96 |
| The average Ct | 26.120 | 26.715 | 0.595 |

Test summary: Summary: as shown in the figure above, it can be seen from the 1.5 times concentration of the HBV fluorescence quantitative detection kit that the measured mean Ct value of 1.5 times concentration is 0.595 different from that of 1 times concentration (the theoretical Ct value should be 0.58 different), indicating that the fluorescence detection sensitivity of QuantGene 9600 real-time fluorescence quantitative PCR analyzer is high.

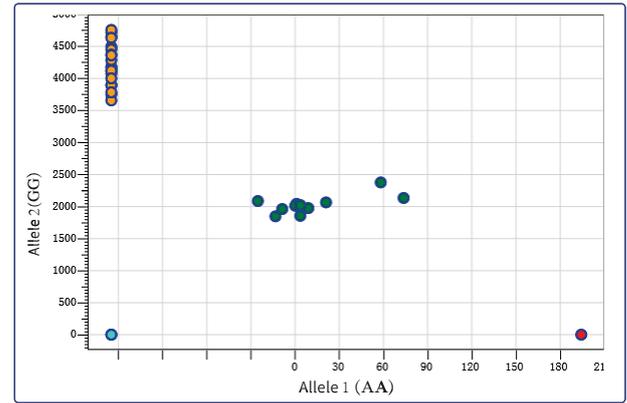
Case 3: Melting curve---Comparative test with an imported brand instrument



Test summary:

It can be seen from the melting curve of the above comparison test that, based on the same test conditions, the melting curve of QuantGene 9600 real-time Fluorescence Quantitative PCR analyzer has more obvious peak effect and higher fluorescence detection sensitivity.

Case 4: End-point fluorescence genotyping --- KASP genotyping test



Genotyping verification results:

| Serial number | Genotype | Whether there is a genetic mutation | Reaction on alcohol |
|---------------|----------|-------------------------------------|---------------------|
| 1 | GG | NO | No response |
| 2 | GA | YES | Blush |
| 3 | AA | YES | Allergy |

Test summary:

Summary: From the experimental data shown in the chart, it can be seen that genotypes and phenotypes are consistent, indicating that the results of KASP genotyping test are correct.

► Product Parameters

| Product name | QuantGene 9600 Fluorescent Quantitative Detection System | | | | | |
|---|--|--------------------|----------------|-----------------|-------------------|-----------|
| Product model | FQD-96C(EA4) | | FQD-96C(EA5) | | FQD-96C(EA6) | |
| Sample size | 96×0.2ml (Suitable for single tube, 8 strip tube and 96-well plate (non skirt & half skirt)) | | | | | |
| Detection channel | F1 | F2 | F3 | F4 | F5 | F6 |
| Applicable dye | FAM, SYBR Green I | VIC, HEX, TET, JOE | ROX, TEXAS-RED | Cy5 Quasar -670 | Cy5.5 Quasar -705 | Cy3,Tamra |
| Module operating temperature range | 4°C~99.9°C(Minimum setting scale:0.1°C) | | | | | |
| Max heating rate | 6°C/s | | | | | |
| Max cooling rate | 5.5°C/s | | | | | |
| Module temperature control accuracy | Should be no greater than 0.1 °C | | | | | |
| Temperature uniformity | The temperature difference is within ±0.3°C | | | | | |
| Temperature control accuracy of hot cover | 105°C±5°C | | | | | |
| Fluorescence intensity test repeatability | CV≤3% | | | | | |
| Mode of operation | Continuous operation | | | | | |
| Operating system | Windows XP/Windows Vista/Windows7/Windows8 | | | | | |
| Input power | 100-240V ~ 50Hz 1000VA | | | | | |
| Overall dimensions | 490mm×290mm×391mm | | | | | |
| Weight | 28kg | | | | | |

*Effect value tested in standard lab environment.

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