20141024
Rev.8

Bioneer
Healthier Future for Humanity with Genomic Technology

Exicycler™ 96

Superior 5-color Real-Time Quantitative PCR System

Real-Time Quantitative PCR System

Superlative optics for superior results

GMP CE-IVD

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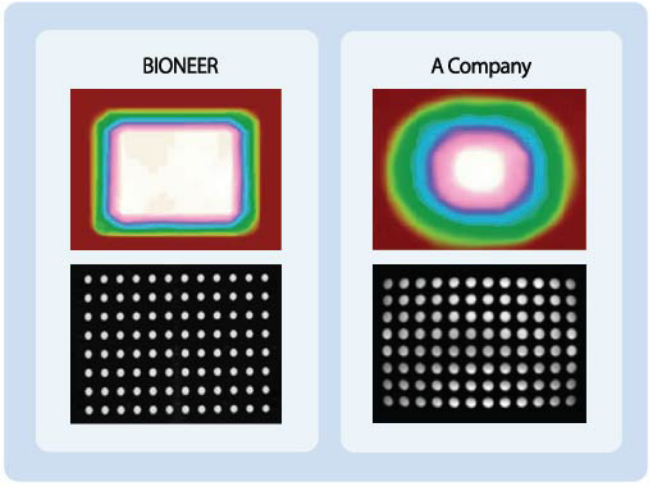
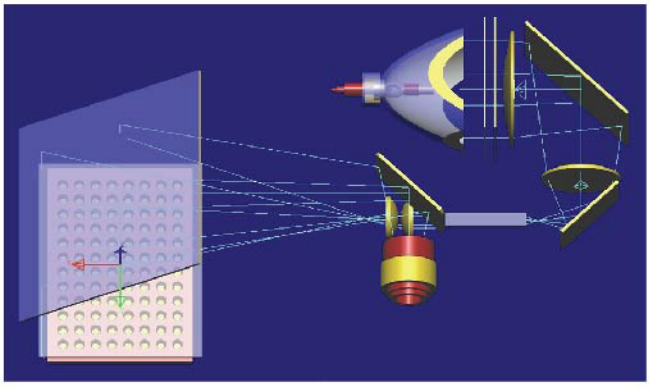
BIONEER
Innovation • Value • Discovery

Superior Optic Module



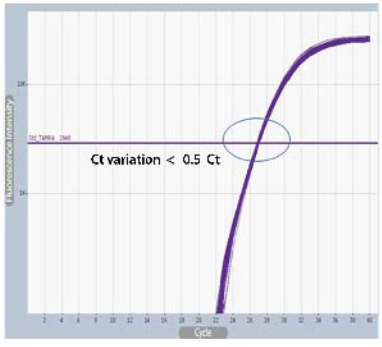
- Homogenous illumination with our the proprietary Light Tunnel Technology of Bioneer
- Intensity differences between wells
- No need to normalize by using a reference dye
- All 5 channels are used for actual experiments

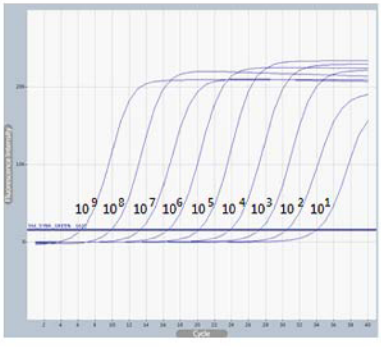
Advanced Optical Module and Detection System

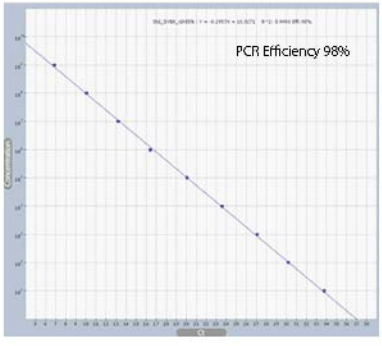


- Obtain fluorescence data from all 96 wells at once with our highly sensitive 2-dimensional CCD
- No time-lag between wells
- Bright, white light from our Short Arc lamp provides uniform intensities for all colors
- Light Path Mask eliminates non-well light contribution

Reproducible Cts & Wide Linear Dynamic Range

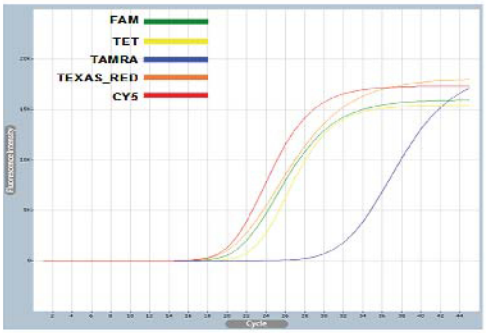






Real 5-color Multiplex PCR

Filter	Excitation	Emission	Fluorescence dye
1	490 nm	520 nm	FAM, SYBR Green I
2	520 nm	550 nm	JOE, TET
3	550 nm	580 nm	TAMRA, Cy3
4	580 nm	610 nm	Texas Red, ROX, Red610
5	630 nm	680 nm	Cy5, Red670



- 5-color multiplexing is available without reserving a channel for reference dye
- Filter 4 is freed for use with Texas Red, Red610 or ROX
- Individual filter for each excitation wavelength results in maximum fluorescence for each dye
- Eliminate the fluorescence overlap between dyes when designing multiplex experiments

Powerful Data Acquisition and Processing Algorithms

Artifacts are removed from raw fluorescence data by:

- Well Quantitation Algorithm
- Fluorescence Intensity Normalization Algorithm
- Background Subtraction Algorithm
- Cross-Talk Compensation Algorithm

All the basic data analysis steps are automatically done by the following carefully designed algorithms:

- Amplification Success/Fail Decision Algorithm

  Corrects errors when any well with an amplified sample is mistakenly assigned as empty

- Baseline Decision Algorithm

  Determines the proper baseline for any possible type of amplification plot

- Threshold Decision Algorithm

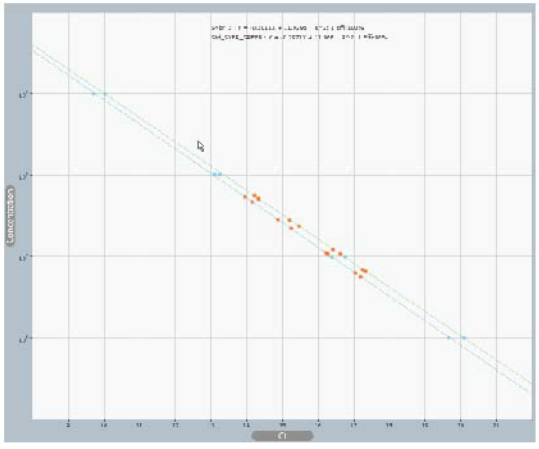
  Determines the proper Ct value

Final results of data analysis are obtained by the software with the following characteristics:

- Individual probe based analysis provides flexibility in experimental design
- Statistically sound and automatic decision for all analysis modules
- Core parameters and options are user adjustable for the fine tuning of analysis results
- A flexible area detection method for Melting Curve Analysis (SYBR Green I)

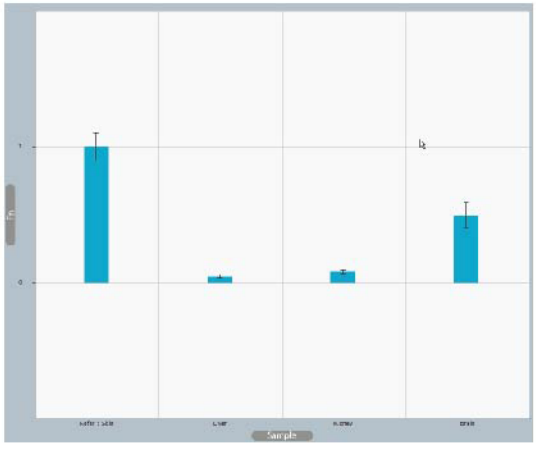
Full Featured Analysis Modules with User-Friendly GUI

Absolute Quantification



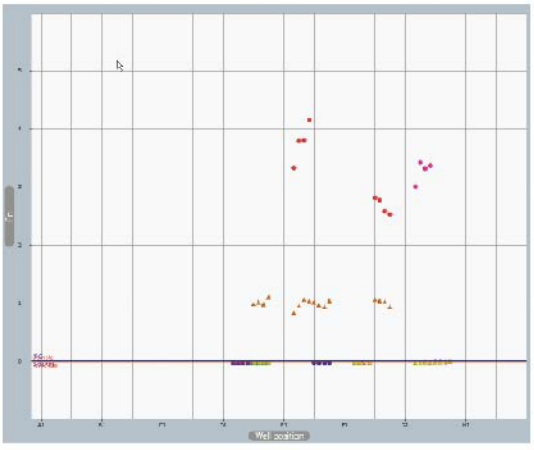
The Ct values of samples are plotted on a standard curve to allow absolute quantification of unknown samples.

Relative Quantification



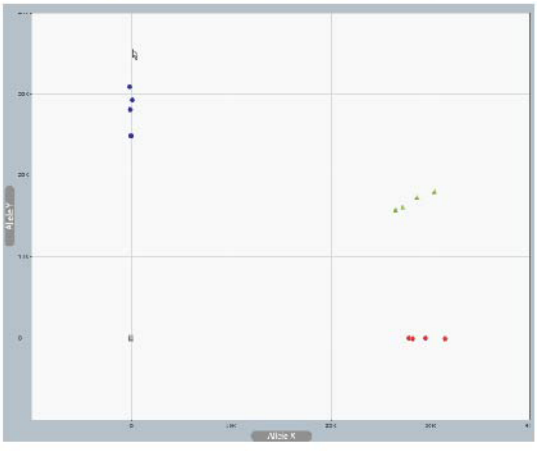
The relative expression levels of a target gene are compared among different samples.

Existence/Nonexistence Assay



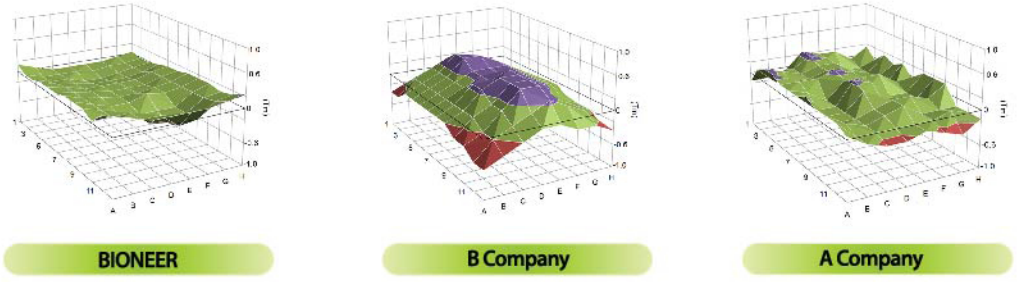
The existence and nonexistence of pathogen are determined.

SNP Genotyping



Homozygous and heterozygous alleles are determined for a SNP site.

Well-to-well Uniformity



These data were obtained to compare temperature homogeneity of the 96-well block among the qPCR instruments. *Exicycler*™ 96 of Bioneer shows 0.11 Standard Deviation of temperature at around 90°C, while the others show 0.25 and 0.15, respectively.

Other Covenient and Powerful Function

- Self Diagnosis
  Detects hardware and software problems through a self-diagnosis protocol each time the system is turned on
- Motorized Loading Tray
  Supports automation using robotics for large scale experiments
- Post-Run Assignment
  The data from all 96 wells are always acquired and kept
- Time and Temperature Increment
- Uniform Block Heating
  Heat sink with thermal-tunnel guarantees uniform block heating
- Standard Format Consumables
- No moving parts except for the loading tray and filter wheel
  Reliable, quiet operation and low maintenance

Superlative Optics for Superior Results

Related products:

- Reagents
- Plasticware
- Primer and probe

*Bioneer manufactures high quality consumables optimized for *Exicycler*™ 96.

Specifications

System specifications	
Dimension (mm)	355(W) x 540(D) x 470(H)
Weight (kg)	30 kg
Sample capacity size	96-well plate / 0.2 ml micro tubes
Sample volume	50㎕ recommended
Power consumption	100 ~ 240 VAC, 50 / 60 Hz 850 Watts
Operating temperature	15 ~ 30 ℃
Operating humidity	20 ~ 80 %, no condensation
Thermo module specifications	
Method of heating / cooling	Peltier
Temperature range	4.0 ℃ ~ 99.9 ℃
Temperature accuracy	± 0.3 ℃
Temperature uniformity	± 0.5 ℃
Heating and cooling rate	Max. 2.5 ℃/sec
Temperature increment range	0.1 ℃ ~ 2.0 ℃
Time increment range	1 sec ~ 60 sec
Computer specifications	
Operating system	Windows XP & Windows 7 (32 - bit OS only, S/W version 3.54.4 or later)
Processor speed	Intel Dual Core E2160 (1.8 GHz) or higher
Memory	1GB or higher
Communication port	USB 2.0 high speed
Screen resolution	1280 x 1024 or higher
Optics specifications	
Light source	Short arc lamp (120W)
Sensor	16 - Bit 2D CCD
Excitation filter / Emission filter	5 Sets

Ordering Information

Cat. No.	Product Description
A-2060	*Exicycler*™ 96 Real-Time Quantitative PCR System
K-6100	*AccuPower® DualStar*™ qPCR PreMix, 20 µl reaction, 12 x 8-strip tubes (96 rxns), optical sealing film included)
K-6103	*AccuPower® DualStar*™ qPCR PreMix, 20 µl reaction, 1 x 96-well plate, optical sealing film included
K-6110	*AccuPower® DualStar*™ qPCR PreMix, 50 µl reaction, 12 x 8-strip tubes (96 rxns), optical sealing film included
K-6113	*AccuPower® DualStar*™ qPCR PreMix, 50 µl reaction, 1 x 96-well plate, optical sealing film included
3111-52	Opaque white 96-well semi-skirted PCR plate for Real-Time PCR, 25 plates
3111-50	Opaque white 0.2 ml 8-strip PCR tubes for Real-Time PCR, 250 strips
3111-41	Adhesive Optical Sealing Film for Real-Time PCR, 100 sheets

The specifications of this product can be changed without notice.

Contact Us

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