Exicycler™ 96

Superior 5-color Real-Time Quantitative PCR System

Real-Time Quantitative PCR System
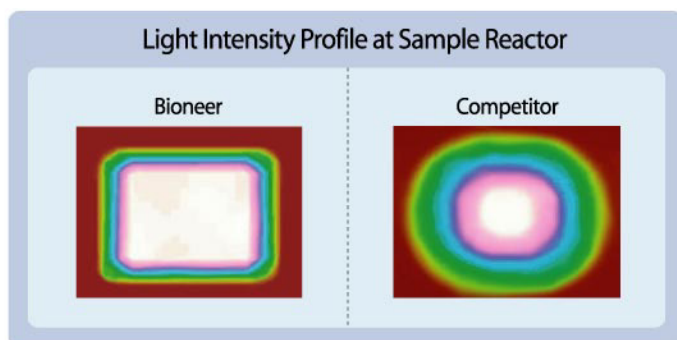Superlative optics for superior results

BIONEER
Innovation • Value • Discovery

No need for reference dyes

Light Intensity Profile at Sample Reactor

Bioneer	Competitor

- Homogenous illumination with our exclusive Light Tunnel Technology
- Eliminate intensity differences between wells
- No need to normalize by using a reference dye
- All 5 channels can be used for actual experiments

Advanced Optical Module and Detection System
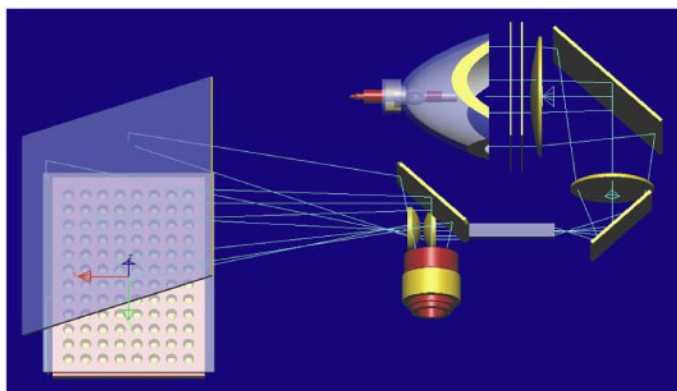
- Obtain fluorescence data from all 96 wells at once with our highly sensitive 2-dimensional CCD
- No time-lag between wells
- Bright white light from our Short Arc lamp provides uniform intensities for all colors
- Light Path Mask eliminates non-well light contribution
- Much longer lamp life relative to Halogen bulbs

Reproducible Cts

Cts that are reproducible within and across experiments - without reference dye:
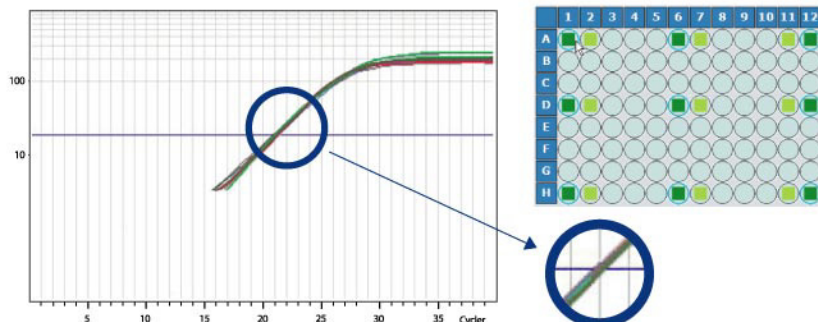
- Bioneer's Light Tunnel Technology
- Advanced Optical Module
- Cutting-edge data processing algorithms

Five Color Multiplexing

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, Red 610
5	630 nm	680 nm	Cy5, Red 670

- No need to reserve one channel for reference dye, 5-color multiplexing is available
- Filter 4 is freed for use with Texas Red, Red610 or ROX
- Individual filters for each excitation wavelength results in maximum fluorescence for each dye
- Eliminate the fluorescence overlap between dyes when designing multiplex experiments
- Use fluorescence dyes with long excitation wavelength such as Cy5

Powerful Data Acquisition and Processing Algorithms

Artifacts are removed from the 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 using the latest methods

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

- Individual probe based analysis providing 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
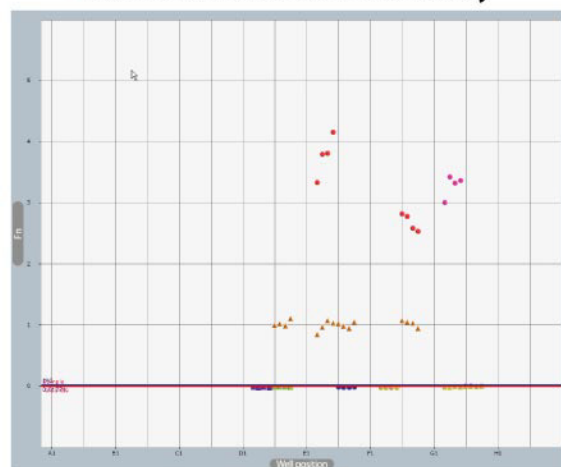
• Absolute Quantification
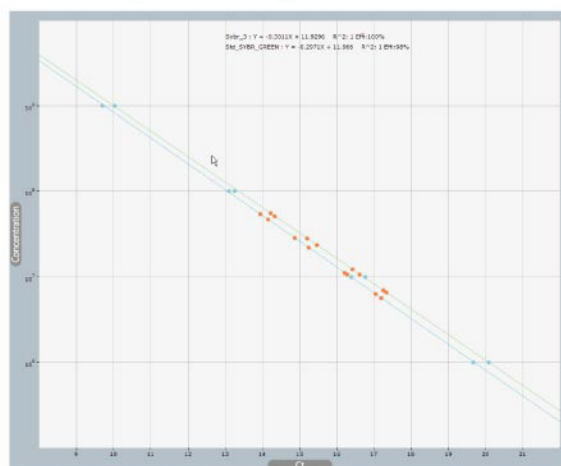
The Ct value of samples are plotted on a standard curve, allowing absolute quantification of unknown samples.

• Relative Quantification

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

• Existence/Nonexistence Assay

The existence and nonexistence of, for example, pathogenic viruses can be determined.

• SNP Genotyping

Homozygous and heterozygous alleles can be determined for a SNP site.

Other Convenient and Powerful Functions

- **Self Diagnosis**

  Detects hardware and software issues 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

- **Thermal Gradient**

  For ease of experimental optimization of qPCR experiments

- **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	50μl 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 ℃ ~ 9.9 ℃
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)
Lamp life time	3,000 hours
Sensor	16 - Bit 2D CCD
Excitation filter / Emission filter	5 Sets

Ordering Information

Cat. No.	Product Description
A-2060	*Exicycler*™ 96 Real-Time Quantitative Thermal Cycler
K-6100	AccuPower® DualStar™ qPCR PreMix for *Exicycler*™ 96, 50 ul reaction, 12 x 8-strip tubes (96 rxns)
K-6113	AccuPower® DualStar™ qPCR PreMix for *Exicycler*™ 96, 50 ul reaction, 1 x 96-well plate (96 rxns)
K-6200	AccuPower® GreenStar™ qPCR PreMix for *Exicycler*™ 96, 50 ul reaction, 12 x 8-strip tubes (96 rxns)
K-6203	AccuPower® GreenStar™ qPCR PreMix for *Exicycler*™ 96, 50 ul reaction, 1 x 96-well plate (96 rxns)
K-6251	AccuPower® 2X GreenStar™ qPCR Master Mix, 50 ul reaction, 1 x 2.5 ml tube (100 rxns)
3111-52	Opaque white 96-well semi-skirted PCR plate for Real-Time PCR, 25 plates
3111-50	0.2 ml opaque white 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

Bioneer Corporation
49-3 Munpyeong-dong,
Daedeok-gu, Daejeon 306-220,
South Korea
Tel: (Korea)1588-9788
(International) +82-42-930-8777
Fax: +82-42-930-8600
E-mail: sales@bioneer.com

Bioneer, Inc.
1000 Atlantic Avenue
Alameda, CA 94501 USA
Toll free: 1- 877-264 - 4300
Fax: 1-510- 865- 0350
E-mail: order.usa@bioneer.us.com

Bioneer Trade(Shanghai) Co., Ltd
403 Room, Building 88, no. 887,
Zuchongzhi Road, Zhangjiang High Tech Park,
PuDong New District, Shanghai 201203, China
Tel: +86-21-5080-0969
Fax: +86-21-5080-1620
E-mail: asan@bioneer.com

Seoul Office
Sansu Building 2nd floor,
6, Yangjae-dong, Seocho-gu, Seoul
137-130, South Korea
Tel: +82-2-598-1094
Fax: +82-2-598-1096

BIONEER
www.bioneer.com