

MiniOpticon™ Real-Time PCR Detection System

Small Size, Big Performance

The MiniOpticon system is the smallest real-time PCR detection system available. The system is composed of a two-color real-time detector and the high-performance, gradient-enabled MJ Mini™ thermal cycler, which enables rapid optimization of real-time PCR experiments. Samples are sequentially illuminated by a fixed array of long-lasting light-emitting diodes (LEDs). Each LED is precisely focused onto its corresponding well to ensure no cross talk, and emitted fluorescence is detected by one of two sensitive, filtered photodiodes. This innovative no-moving-parts design allows accurate detection in a compact and robust package. CFX Manager™ software controls and collects data from the MiniOpticon system. The software provides sophisticated, yet easy-to-use programming, data analysis, and data export.



Specifications

MJ Mini Thermal Cycler

Speed of ramping	Up to 2.5°C/sec	Gradient operational range	35–99°C
Heating and cooling method	Peltier	Gradient programmable span	1–16°C
Lid	Height-adjustable heated lid; default set to 100°C	Gradient accuracy	±0.4°C of programmed target at end rows within 10 sec (NIST-traceable)
Temperature range	0–99°C, but not more than 30°C below ambient temperature	Row uniformity	±0.4°C well-to-well within 30 sec of reaching target temperature
Temperature accuracy	±0.2°C of programmed target at 90°C (NIST-traceable)	Calculator accuracy	±0.4°C of actual row temperature
Temperature uniformity	±0.4°C well-to-well within 10 sec of arrival at 90°C		

Optical Detection

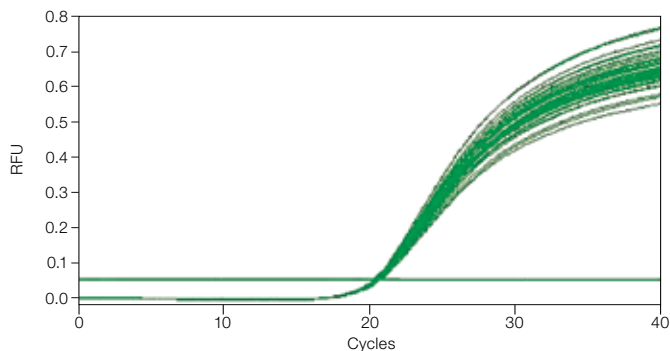
Excitation	48 blue-green LEDs	Dynamic range	10 orders of magnitude
Detection	2 filtered photodiodes	Fluorescence excitation range	470–500 nm
Sensitivity	Detects 1 copy of target sequence in human genomic DNA	Fluorescence detection ranges	Channel 1: 523–543 nm Channel 2: 540–700 nm

CFX Manager Software

Operating systems	Windows XP, Windows Vista	Data export	Save, copy, and print all graphs and spreadsheets from right-click menu
Multiplex analysis	Up to 2 targets per well		Export results to Microsoft Excel
Data analysis modes	PCR quantitation with standard curve Melt-curve analysis Gene expression analysis by relative quantity (ΔC_T) or normalized expression ($\Delta\Delta C_T$) with multiple reference genes and individual reaction efficiencies Multiple file gene expression analysis Allelic discrimination End-point analysis		Copy and paste into Microsoft Excel, Word, or PowerPoint files Customizable reports containing run settings, data graphs, and spreadsheets can be directly printed or saved as a PDF

MiniOpticon System

PCR license	Yes	Electrical approvals	IEC, CE
Sample capacity	48-well PCR plate, 6 x 8-tube strips	Dimensions (W x D x H)	18 x 32 x 33 cm (7 x 12.5 x 13")
Sample volume	10–100 μ l (20 μ l recommended)	Weight	6.8 kg (15 lb)
Communication	USB 2.0		



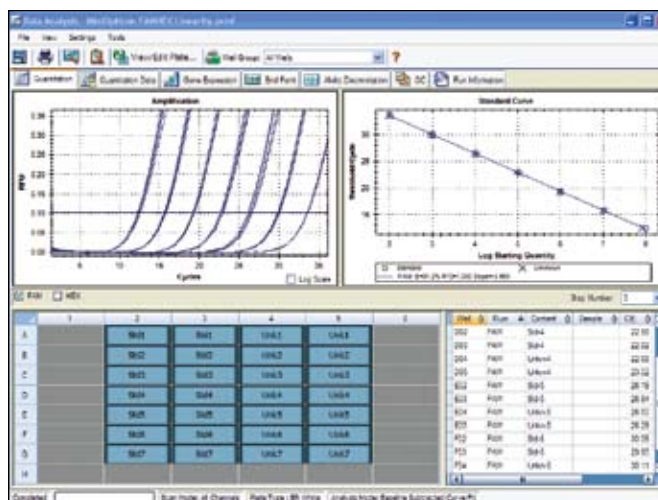
Uniform results. Analysis of 48 replicate 25 μ L PCR samples with a $C_T \pm 0.13$ SD. This high degree of uniformity, made possible by combining an innovative optical system with the high performance of the MJ Mini thermal cycler, ensures reliable and reproducible results from sample to sample and experiment to experiment. RFU, relative fluorescence units.

CFX Manager Software

CFX Manager software version 1.5 is compatible with the MiniOpticon system, reducing the time to results by providing a startup wizard and intuitive experiment setup and navigation features. For data analysis, CFX Manager software provides advanced analysis tools that perform normalized gene expression using multiple reference genes and target-specific reaction efficiencies, melt-curve analysis, end-point analysis, and allelic discrimination. Use the Well Groups feature to analyze multiple experiments from a single plate, each with its own analysis settings. Use the QC tools to validate the quality of your results and flag suspect data.

Access your data when and where you want, using email notification with an attached data file. Customize the settings to suit your needs with user preferences, including unique log-in names, gene and sample name libraries, and data analysis options.

CFX Manager software is compatible with Windows XP Professional SP2 and Windows Vista Home Premium operating systems.



CFX Manager software data analysis module.

Ordering Information

Catalog #	Description
CFB-3120	MiniOpticon Real-Time PCR System , includes optical housing, MJ Mini thermal cycler, analysis software
MLL-4851	Multiplate™ Low-Profile 48-Well Unskirted PCR Plates , white, 50
TCS-0803	Optical Flat 8-Cap Strips , for 0.2 ml tubes and plates, ultraclear, 120
TLS-0851	Low-Profile 0.2 ml 8-Tube Strips Without Caps , white, 120 strips (960 tubes)
184-5003	CFX Manager Software, MiniOpticon , includes CFX Manager software version 1.5, installation CD, quick guides, instruction manual for MiniOpticon

Excel, Microsoft, PowerPoint, Windows, and Windows Vista are trademarks of Microsoft Corporation.

Purchase of this instrument conveys a limited non-transferable immunity from suit for the purchaser's own internal research and development and for use in applied fields under one or more of U.S. Patents 5,656,493, 5,333,675, 5,475,610 (claims 1, 44, 158, 160-163 and 167 only), and 6,703,236 (claims 1-7 only), or corresponding claims in their non-U.S. counterparts, owned by Applied Biosystems. No right is conveyed expressly, by implication or by estoppel under any other patent claim, such as claims to apparatus, reagents, kits, or methods such as 5' nuclease methods. Further information on purchasing licenses may be obtained by contacting the Director of Licensing, Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404, USA.

Bio-Rad's real-time thermal cyclers are licensed real-time thermal cyclers under Applied's United States Patent 6,814,934 B1 for use in research and for all fields except veterinary diagnostics.

Bio-Rad's real-time thermal cyclers are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Nos. 6,767,512 and 7,074,367.



**Bio-Rad
Laboratories, Inc.**

Life Science
Group

Web site www.bio-rad.com **USA** 800 4BIORAD **Australia** 61 02 9914 2800 **Austria** 01 877 89 01 **Belgium** 09 385 55 11 **Brazil** 55 21 3237 9400 **Canada** 905 364 3435 **China** 86 21 6426 0808 **Czech Republic** 420 241 430 532 **Denmark** 44 52 10 00 **Finland** 09 804 22 00 **France** 01 47 95 69 65 **Germany** 089 318 84 0 **Greece** 30 210 777 4396 **Hong Kong** 852 2789 3300 **Hungary** 36 1 455 8800 **India** 91 124 4029300 **Israel** 03 963 6050 **Italy** 39 02 216091 **Japan** 03 6361 7000 **Korea** 82 2 3473 4460 **Mexico** 52 555 488 7670 **The Netherlands** 0318 540666 **New Zealand** 0508 805 500 **Norway** 23 38 41 30 **Poland** 48 22 331 99 99 **Portugal** 351 21 472 7700 **Russia** 7 495 721 14 04 **Singapore** 65 6415 3188 **South Africa** 27 861 246 723 **Spain** 34 91 590 5200 **Sweden** 08 555 12700 **Switzerland** 061 717 95 55 **Taiwan** 886 2 2578 7189 **United Kingdom** 020 8328 2000