

CFX384™ Real-Time PCR Detection System

Designed for the Way You Work

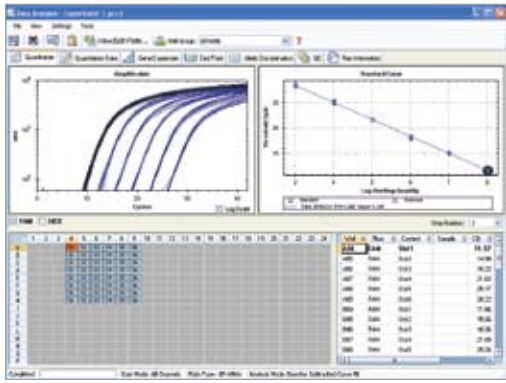
The CFX384 real-time PCR detection system brings flexibility and ease of use to researchers performing high-throughput real-time PCR in a 384-well format. The solid-state optical components provide sensitive detection for precise quantitation and reliable performance. The CFX384 system offers a single-color fast scan option for data acquisition and four-target multiplex reaction capabilities. CFX Manager™ software provides numerous features and tools to streamline data management, from experiment setup to analysis. Enter or edit well information on your own time — before, during, or after a run. CFX Manager software offers enhanced data analysis modules, including gene expression analysis by relative quantity (ΔC_T) or normalized expression ($\Delta\Delta C_T$) with multiple reference genes and individual reaction efficiencies used in the calculations. For laboratories operating in regulated environments, CFX Manager software, Security Edition offers tools for compliance with U.S. FDA 21 CFR Part 11 regulations.



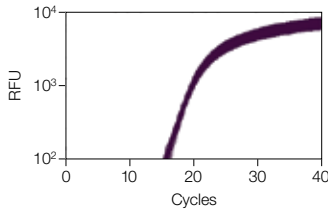
Specifications

C1000™ Thermal Cycler With 384-Well Reaction Module			
Maximum ramp rate	2.5°C/sec	Temperature range	0–100°C
Average ramp rate	2°C/sec	Temperature accuracy	±0.2°C of programmed target at 90°C
Heating and cooling method	Peltier	Temperature uniformity	±0.4°C well-to-well within 10 sec of arrival at 90°C
Lid	Heats up to 105°C	Gradient	
		Operational range	30–100°C
		Programmable span	1–24°C
Optical Detection			
Excitation	5 filtered LEDs	Dynamic range	10 orders of magnitude
Detection	5 filtered photodiodes	Scan time	
Range of excitation/emission wavelengths	450–690 nm	All channels	<20 sec
Sensitivity	Detects 1 copy of target sequence in human genomic DNA	Single channel fast scan	8 sec
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 4 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 PDFs
System			
Licensed for real-time PCR	Yes	Electrical approvals	IEC, CE
Sample capacity	384 wells	Dimensions (W x D x H)	33 x 46 x 36 cm (13 x 18 x 14")
Sample size	1–30 µl (5–20 µl recommended)	Weight	21.4 kg (47 lb)
Communications	USB 2.0		





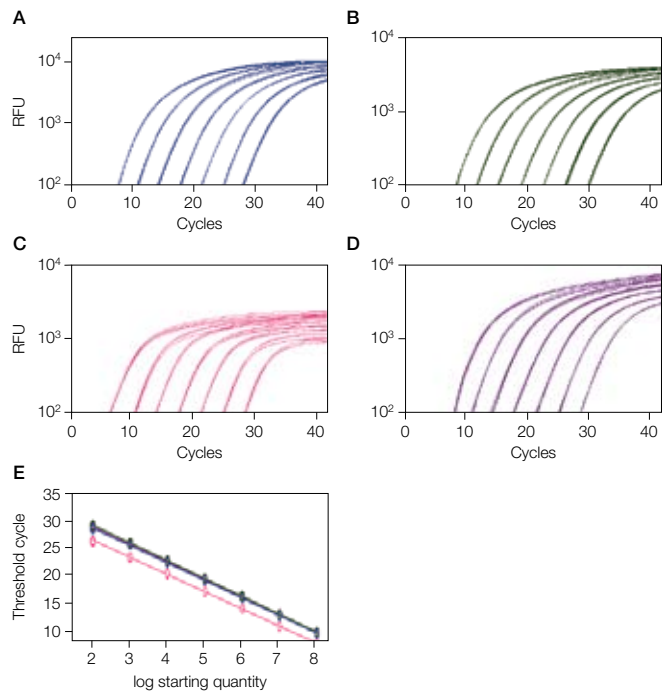
CFX Manager software data analysis module.



Excellent uniformity. IL-1 β plasmid template diluted to 10^5 copies/reaction amplified in the presence of a FAM-labeled detection probe with iQ™ supermix. Graph shows 384 replicates of 5 μ l reactions. Average $C_T = 18.11 \pm 0.045$. RFU, relative fluorescence units.

Ordering Information

Catalog #	Description
184-5384	CFX384 Optical Reaction Module , includes CFX Manager software, license for qbase ^{PLUS} software, communication cable, reagent and consumable samples, instructions. Order to upgrade an existing C1000 thermal cycler.
185-5384	CFX384 Real-Time PCR Detection System , includes C1000 thermal cycler chassis, CFX384 optical reaction module, CFX Manager software, license for qbase ^{PLUS} software, communication cable, power cord, reagent and consumable samples, instructions
184-5001	CFX Manager Software, Security Edition , includes 1 user license, installation CD, HASP HL key, instructions
184-5025	Precision Melt Analysis™ Software , includes 2 user licenses, installation CD, 2 HASP HL keys, calibration kit, instructions
184-5008	CFX Manager Software, Chinese Edition , includes 3 user licenses, installation CD, 3 HASP HL keys, instructions
184-5028	CFX Manager Software, Russian Edition , includes 3 user licenses, installation CD, 3 HASP HL keys, instructions
184-5072	CFX Automation System , includes robotic plate handler, base tray, bar code scanner, CFX automation control software CD, instruction manual
170-8862	iQ Supermix , 500 x 50 μ l reactions
170-8891	iScript™ cDNA Synthesis Kit , 100 x 20 μ l reactions, includes 5x iScript reaction mix, iScript reverse transcriptase, nuclease-free water
172-5200	SsoFast™ EvaGreen® Supermix , 200 x 20 μ l reactions, 2x mix contains dNTPs, Sso7d fusion polymerase, MgCl ₂ , EvaGreen dye, stabilizers
HSP-3805	Hard-Shell® Thin-Wall 384-Well Skirted PCR Plates , clear shell, white well, 50
MSB-1001	Microseal® 'B' Adhesive Seals , 100



Linearity of four-target multiplex detection. A–D, fluorescence data from a series of 10-fold dilutions of plasmid DNA (10^8 – 10^2 copies) amplified using reporter dyes to monitor four targets: ■, FAM/actin; ■, HEX/GAPDH; ■, Texas Red/cyclophilin; ■, Cy5/tubulin; E, standard curves generated from data in A–D, reaction efficiencies range from 98 to 103%. RFU, relative fluorescence units.

Cy is a trademark of GE Healthcare group companies. EvaGreen is a trademark of Biotium, Inc. Bio-Rad Laboratories, Inc. is licensed by Biotium, Inc. to sell reagents containing EvaGreen dye for use in real-time PCR, for research purposes only. Excel, Microsoft, PowerPoint, Windows, and Windows Vista are trademarks of Microsoft Corporation. Texas Red is a trademark of Invitrogen 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 human in vitro diagnostics and all other 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 Biosystems' United States Patent 6,814,934 B1 for use in research, human in vitro diagnostics, and all other 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.

Practice of the patented 5' Nuclease Process requires a license from Applied Biosystems. The purchase of these products includes an immunity from suit under patents specified in the product insert to use only the amount purchased for the purchaser's own internal research when used with the separate purchase of Licensed Probe. No other patent rights are conveyed expressly, by implication, or by estoppel. Further information on purchasing licenses may be obtained from the Director of Licensing, Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404, USA.

Hard-Shell plates are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Nos. 7,347,977, 6,340,589, and 6,528,302.



**Bio-Rad
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