

CFX96 Touch™ Real-Time PCR Detection System

Specifications

Real-Time PCR

Bulletin 6075

Advancing qPCR Together

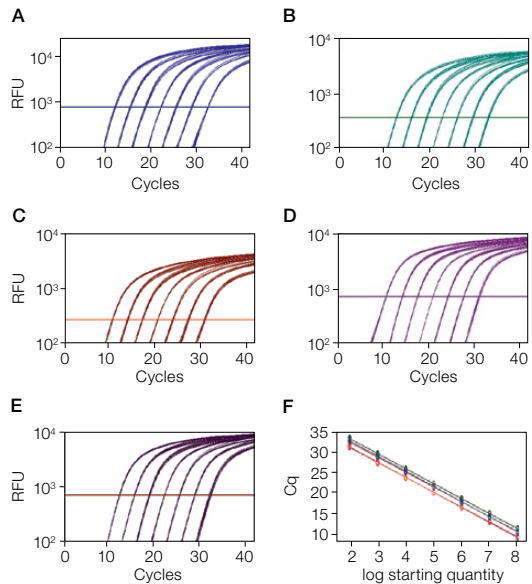
The CFX96 Touch Real-Time PCR Detection System lets you quickly set up runs, easily monitor their progress, and use powerful analysis tools. Solid-state optical components provide sensitive detection for precise quantification and target discrimination. Five-target multiplexing enables powerful simultaneous analyses. Tailor the run to detect SYBR® Green in the single-color fast scan mode. Set up runs and view data traces in real time on the integrated touch screen. CFX Maestro™ Software is customizable for all levels of users and different experiment needs. A startup wizard and intuitive experiment setup make it easy to get started with real-time PCR. Extract meaningful information from runs and visualize data using bar charts, box-and-whisker plots, dot plots, clustergrams, scatter plots, and volcano plots. Further analyze data using statistics, including *t*-tests and one-way ANOVA.



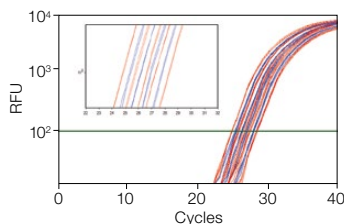
Specifications

| | | | |
|---|--|--------------------------|--|
| C1000 Touch™ Thermal Cycler with 96-Well Reaction Module | | | |
| Maximum ramp rate | 5°C/sec | Temperature range | 0–100°C |
| Average ramp rate | 3.3°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 | 6 filtered LEDs | Dynamic range | 10 orders of magnitude |
| Detection | 6 filtered photodiodes | Scan time | |
| Range of excitation/ emission wavelengths | 450–730 nm | All channels | 12 sec |
| Sensitivity | Detects 1 copy of target sequence in human genomic DNA | Single-channel fast scan | 3 sec |
| | | Multiplex analysis | Up to 5 targets per well |
| Software | | | |
| Operating systems | Windows 7, 8, and 10, Mac OS X El Capitan and OS Sierra (Mac version for data analysis only; not for instrument control) | Data export | Save, copy, and print all graphs and spreadsheets from right-click menu |
| Memory | Minimum of 1 GB | | Export specified data in multiple formats |
| Data analysis modes | PCR quantification with standard curve | | Copy and paste into Microsoft Excel, Word, or PowerPoint file |
| | Melt curve analysis | | Customizable reports containing run settings, data graphs, and spreadsheets can be directly printed or saved as PDFs |
| | Gene expression analysis by relative quantity (ΔCq) or normalized expression ($\Delta\Delta Cq$) | Image Export | Export images at any pixel size and at resolution up to 600 dpi. Save images as bmp, jpg, or png files |
| | Data analysis options include bar charts, box-and-whisker plots, dot plots, clustergrams, scatter plots, and volcano plots | | |
| | Statistics, including <i>t</i> -tests and ANOVA | | |
| | Multiple-file gene expression analysis for comparison of an unlimited number of Cq values | | |
| | Allelic discrimination | | |
| | End-point analysis | | |
| System | | | |
| Licensed for real-time PCR | Yes | Electrical approvals | IEC, CE |
| Sample capacity | 96 wells | Dimensions (W x D x H) | 33 x 46 x 36 cm (13 x 18 x 14 in.) |
| Sample size | 1–50 μ l (10–25 μ l recommended) | Weight | 21 kg (47 lb) |
| Communications | USB 2.0 or above | | |

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Linearity of five-target multiplex detection. A–E, fluorescence data from a series of tenfold dilutions of plasmid DNA (10^8 – 10^2 copies) amplified using reporter dyes to monitor five targets: FAM/actin (■); HEX/GAPDH (■); Texas Red/cyclophilin (■); Cy5/tubulin (■); Quasar 705//L-1 β (■); F, standard curves generated from data in A–E, reaction efficiencies range from 97 to 103%. Cq, quantification cycle; RFU, relative fluorescence units.



Exceptional reproducibility can be achieved with SsoFast™ EvaGreen® Supermix. Efficient discrimination and reliable quantification can be obtained from 1.33-fold serial dilutions of input template. The *CBP* gene was amplified from varying amounts of human genomic DNA (5 ng–500 pg). From left to right: 5 ng, 2.83 ng, 1.60 ng, 903 pg, and 511 pg (■); 3.76 ng, 2.13 ng, 1.20 ng, and 679 pg (■). *CBP* efficiency = 96.5%, $r = 0.996$. Inset is a magnified view showing robust discrimination and reproducible amplification. RFU, relative fluorescence units.

Ordering Information

| Catalog # | Description |
|-----------|--|
| 1841100 | C1000 Touch Thermal Cycler Chassis , includes USB flash drive, power cord; does not include reaction module |
| 1845097 | CFX96™ Optical Reaction Module , for use with C1000 Touch Thermal Cycler Chassis, includes communication cable |
| 1855196 | CFX96 Touch Real-Time PCR Detection System with Starter Package , includes C1000 Touch Thermal Cycler Chassis, CFX96 Optical Reaction Module, CFX Maestro Software, license for qbase+ Software, communication cable, reagents, consumables |

| Catalog # | Description |
|-----------|---|
| 1855195 | CFX96 Touch Real-Time PCR Detection System , includes C1000 Touch Thermal Cycler Chassis, CFX96 Optical Reaction Module, communication cable |
| 12004110 | CFX Maestro Software |
| 12004128 | CFX Maestro Software for Mac |
| 12005258 | CFX Maestro Software, Security Edition , includes 1 user license, installation CD, HASP HL key |
| 1845025 | Precision Melt Analysis™ Software , includes 2 user licenses, installation CD, 2 HASP HL keys, melt calibration kit |
| 1845075 | CFX Automation System II , includes plate handler and barcode scanner, mounting plate, automation software |
| 1814000 | PX1™ PCR Plate Sealer , includes heat sealing instrument |
| 1814030 | Optically Clear Heat Seal , for use with PX1 PCR Plate Sealer, 100 |
| MSB1001 | Microseal® 'B' Adhesive Seals , optically clear, 100 |
| HSP9655 | Hard-Shell® Low-Profile 96-Well Skirted PCR Plates , white well, white shell, 50 |
| HSP9955 | Hard-Shell Low-Profile 96-Well Skirted PCR Plates , white well, white shell, barcoded, 50 |
| 1708840 | iScript™ Reverse Transcription Supermix for RT-qPCR , 25 x 20 μ l reactions, includes 100 μ l 5x iScript RT Supermix, iScript RT Supermix No-RT Control |
| 1725037 | iScript Advanced cDNA Synthesis Kit for RT-qPCR , 25 x 20 μ l reactions, includes 100 μ l 5x iScript Advanced Reaction Mix, 25 μ l iScript Advanced Reverse Transcriptase |
| 1725848 | iQ™ Multiplex Powermix , 50 x 50 μ l reactions, 2x mix contains dNTPs, 11 mM MgCl ₂ , iTaq™ DNA Polymerase, stabilizers |
| 1725270 | SsoAdvanced™ Universal SYBR® Green Supermix , 2 ml (2 x 1 ml vials), 200 x 20 μ l reactions, 2x qPCR mix, contains Sso7d fusion polymerase, ROX Normalization Dyes |
| 1725280 | SsoAdvanced Universal Probes Supermix , 2 ml (2 x 1 ml vials), 200 x 20 μ l reactions, 2x qPCR mix, contains Sso7d fusion polymerase, ROX Normalization Dyes |
| 1725160 | SsoAdvanced PreAmp Supermix , 1.25 ml (1 x 1.25 ml vial), 50 x 50 μ l reactions, 2x PreAmp Mix, contains dNTPs, Sso7d fusion polymerase, salts, enhancers, stabilizers, other proprietary components |
| 1725095 | SingleShot™ SYBR® Green One-Step Kit , 100 x 50 μ l reactions |

Visit bio-rad.com/web/CFX96TouchSpecs for more information.

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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 Numbers 6,767,512 and 7,074,367.

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 Numbers 7,347,977; 6,340,589; and 6,528,302.

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