

### Real-Time PCR

Bulletin 7053

Bio-Rad's CFX96 Dx System for in vitro diagnostic use is designed with reliability and performance in mind. With five-target detection, unsurpassed thermal cycler performance, and easy-to-use software, the CFX96 Dx is an open system offering the ultimate flexibility in commercial assay selection or rapid assay development.

The CFX96 Dx System makes it easy for you to:

- Generate robust results right away with factory-calibrated optics and fast system setup
- Conserve samples and reduce reagent cost using up to 5-target multiplexing with reaction volumes as low as 10  $\mu$ l
- Streamline data analysis with built-in analysis modules and sophisticated quality control (QC) tools
- Create a personalized system setup with user-specific system access settings and flexible instrument configurations



### Specifications

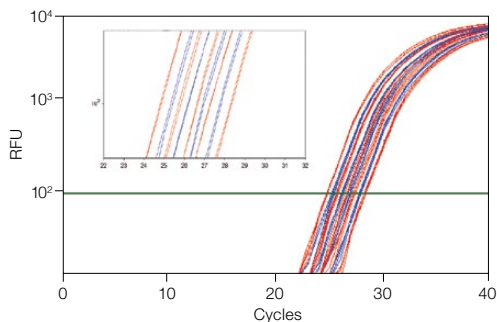
<b>C1000 Dx Thermal Cycler with CFX96 Dx ORM*</b>			
Maximum ramp rate	5°C/sec	Gradient	
Average ramp rate	3.3°C/sec	Operational range	30–100°C
Heating and cooling method	Peltier	Programmable span	1–24°C
Lid	Heats up to 105°C	Temperature range	0–100°C
		Temperature accuracy	±0.2°C of programmed target at 90°C
		Temperature uniformity	±0.4°C well-to-well within 10 sec of arrival at 90°C
<b>Optical Detection</b>			
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
<b>Software</b>			
Operating systems	Windows 7 (32-bit, 64-bit), Windows 10 (64-bit)		Allelic discrimination
Memory	Minimum of 1 GB		End-point analysis
Multiplex analysis	Up to 5 targets per well	Data export	Save, copy, and print all graphs and spreadsheets from right-click menu
Data analysis modes	PCR quantification with standard curve		Export specified data in multiple formats
	Melt curve analysis		Copy and paste into Microsoft Excel, Word, or PowerPoint file
	Gene expression analysis by relative quantity ( $\Delta$ Cq) or normalized expression ( $\Delta\Delta$ Cq) with multiple reference genes and individual reaction efficiencies		Customizable reports containing run settings, data graphs, and spreadsheets can be directly printed or saved as PDFs
	Data analysis options include bar chart, clustergram, scatter plot, volcano plot, and heat map		
	Multiple file gene expression analysis for comparison of an unlimited number of quantification cycle (Cq) values		
<b>System</b>			
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 $\mu$ l (10–25 $\mu$ l recommended)	Weight	21 kg (47 lb)
Communication	USB 2.0	Real-time PCR license	Yes
Electrical approvals	IEC, CE	In vitro diagnostic license	Yes
		CE-IVD mark	Yes

\* Optical Reaction Module.

## Simplicity Through Innovation

The CFX96 Dx System is built on Bio-Rad's proven 1000-series thermal cycling platform. The system incorporates innovative optical technologies with long-lasting LEDs and solid-state components to provide maximum reliability and flexibility.

- Scanning optics read each well individually with high sensitivity and no cross talk to deliver optimal quantitative results
- Multiple data acquisition modes, including a fast scan option for EvaGreen® or SYBR® Green I users and an all channels mode to detect up to 5 targets in a single well, let a run be tailored to suit the application
- Several control configurations are available — run a stand-alone system or independently run up to 4 instruments from 1 computer
- A startup wizard, intuitive experiment setup, and streamlined data analysis enable fast result turnaround



**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. 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%,  $R^2 = 0.996$ . Inset is a magnified view showing robust discrimination and reproducible amplification. RFU, relative fluorescence units.

## Software Solutions for Accurate Results

CFX Manager Dx Software offers tools to simplify real-time PCR for every laboratory. Immediately generate results using the Startup Wizard and intuitive experiment setup. Enter or edit well information before, during, or after a run.

Analyze data when and where you want by receiving an email with an attached data file when a run is completed. When data are in hand, use the comprehensive data analysis, QC, and report tools to take the guesswork out of analyzing and reporting results for any real-time PCR application.

The CFX96 Dx System is licensed for human in vitro diagnostics and all other applied fields. The system is CE-IVD marked in compliance with the European Union diagnostic medical device manufacturing standards.

## Ordering Information

To order the CFX96 Dx System, you must include both catalog numbers.

Catalog #	Description
1845097-IVD	<b>CFX96 Dx ORM</b> , includes CFX Manager Dx Software, version 3.1 (catalog number 12007917)
1841000-IVD	<b>C1000 Dx Thermal Cycler</b>

USA: For in vitro diagnostic (IVD) use. The CFX96 Dx System and CFX96 Deep Well Dx System are registered with the U.S. FDA as Class II 510(k) exempt devices.

Canada: The CFX96 Dx System and CFX96 Deep Well Dx System are registered as Class I devices.

China: The CFX96 Deep Well Dx System has been certified as a Class III medical device by China's National Medical Products Administration (NMPA).

EU: For in vitro diagnostic use. The CFX96 Dx and CFX96 Deep Well Dx Systems meet the requirements of the In Vitro Diagnostic Medical Devices Directive (98/79/EC). The CE IVD-registered CFX96 Dx and CFX96 Deep Well Dx Systems are for distribution and use in EU countries only (Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, and Sweden).

Worldwide: The CFX96 Dx and CFX96 Deep Well Dx Systems are for sale for in vitro diagnostic use in the following countries:

- Americas: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Paraguay, and Venezuela
- Asia-Pacific: Australia, Brunei, Hong Kong, India, Laos, Mongolia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam
- Europe, Middle East, and Africa: Belarus, Egypt, Morocco, Netherlands, Norway, Qatar, Saudi Arabia, Switzerland, Turkey, Ukraine, United Kingdom, and Yemen

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Notice regarding high resolution melt analysis:

No rights are granted by Bio-Rad for the use of high resolution melt analysis in the fields of human or veterinary in vitro diagnostics. In addition, it is the responsibility of the purchaser to obtain any intellectual property rights which may be required for its specific applications.

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