

# CFX Connect™ Real-Time PCR Detection System

## Specifications

Real-Time PCR

Bulletin 6102

### Advancing qPCR Together

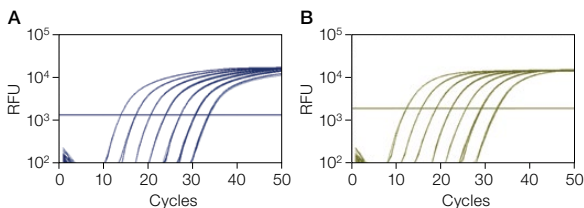
The CFX Connect Real-Time PCR Detection System incorporates industry-leading optics with a Peltier-based reaction block for precise and reliable quantitative PCR (qPCR) data acquisition. The system offers an integrated solution for all your SYBR® Green/EvaGreen and duplex experiments. A thermal gradient is easily generated across the 96-well reaction block to support rapid optimization of real-time PCR assays. The CFX Connect System includes the powerful CFX Manager™ Software for system operation, experiment setup, and data analysis.



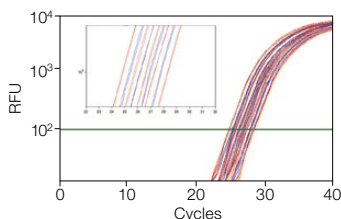
### Specifications

<b>CFX Connect Thermal Cycler with 96-Well Reaction Module</b>			
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		
<b>Optical Detection</b>			
Excitation	3 filtered LEDs	Dynamic range	10 orders of magnitude
Detection	3 filtered photodiodes	Scan time	
Range of excitation/ emission wavelengths	450–580 nm	All channels	12 sec
Sensitivity	Detects 1 copy of target sequence in human genomic DNA	Single channel fast scan	3 sec
<b>CFX Manager Software</b>			
Operating systems	Windows 7, Windows 8	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
Multiplex analysis	Up to 2 targets per well		Copy and paste into Microsoft Excel, Word, or PowerPoint file
Data analysis modes	PCR quantification with standard curve Melt curve analysis Gene expression analysis by relative quantity ( $\Delta C_q$ ) or normalized expression ( $\Delta\Delta C_q$ ) with multiple reference genes and individual reaction efficiencies 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 $C_q$ values Allelic discrimination End-point analysis		Customizable reports containing run settings, data graphs, and spreadsheets can be directly printed or saved as PDFs
<b>System</b>			
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 $\mu$ l (10–25 $\mu$ l recommended)	Weight	21 kg (47 lb)
Communications	USB 2.0		

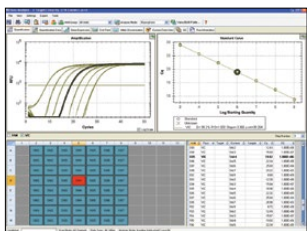
**BIO-RAD**



**Excellent linearity of duplex detection.** A–B, fluorescence data from a series of tenfold dilutions of plasmid DNA ( $10^8$ – $10^2$  copies) amplified using reporter dyes to monitor two targets: ■, FAM/cyclophilin; ■, VIC/IL-1 $\beta$ . 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–511 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%,  $R^2 = 0.996$ . Inset is a magnified view showing robust discrimination and reproducible amplification. RFU, relative fluorescence units.



**Efficient data analysis with CFX Manager Software.** Packaged with the CFX Connect System, CFX Manager Software provides multiple built-in modules for rapid data quality control and analysis.

## Ordering Information

Catalog #	Description
185-5200	<b>CFX Connect Real-Time PCR Detection System</b> , includes CFX Connect Thermal Cycler Chassis, CFX Connect Optical Reaction Module, CFX Manager Software, license for qbase+ Software, communication cable, reagents, consumables
185-5201	<b>CFX Connect Real-Time PCR Detection System</b> , includes CFX Connect Thermal Cycler Chassis, CFX Connect Optical Reaction Module, CFX Manager Software, license for qbase+ Software, communication cable

184-5025	<b>Precision Melt Analysis™ Software</b> , includes 2 user licenses, installation CD, 2 HASP HL keys, melt calibration kit
181-4000	<b>PX1™ PCR Plate Sealer</b> , includes heat sealing instrument
181-4030	<b>Optically Clear Heat Seal</b> , for use with PX1 PCR Plate Sealer, 100
MSB-1001	<b>Microseal® 'B' Adhesive Seals</b> , optically clear, 100
HSP-9655	<b>Hard-Shell® Low-Profile 96-Well Skirted PCR Plates</b> , white well, white shell, 50
HSP-9955	<b>Hard-Shell Low-Profile 96-Well Skirted PCR Plates</b> , white well, white shell, barcoded, 50
170-8840	<b>iScript™ Reverse Transcription Supermix for RT-qPCR</b> , 25 x 20 $\mu$ l reactions, includes 100 $\mu$ l 5x iScript RT Supermix, iScript RT Supermix No-RT Control
172-5037	<b>iScript Advanced cDNA Synthesis Kit for RT-qPCR</b> , 25 x 20 $\mu$ l reactions, includes 100 $\mu$ l iScript Advanced Reaction Mix, 25 $\mu$ l iScript Advanced Reverse Transcriptase
172-5848	<b>iQ™ Multiplex Powermix</b> , 50 x 50 $\mu$ l reactions, 2x mix contains dNTPs, 11 mM MgCl <sub>2</sub> , iTaq™ DNA Polymerase, stabilizers
172-5270	<b>SsoAdvanced™ Universal SYBR® Green Supermix</b> , 2 ml (2 x 1 ml vials), 200 x 20 $\mu$ l reactions, 2x qPCR mix, contains Sso7d fusion polymerase, ROX Normalization Dyes
172-5280	<b>SsoAdvanced Universal Probes Supermix</b> , 2 ml (2 x 1 ml vials), 200 x 20 $\mu$ l reactions, 2x qPCR mix, contains Sso7d fusion polymerase, ROX Normalization Dyes
172-5160	<b>SsoAdvanced PreAmp Supermix</b> , 1.25 ml (1 x 1.25 ml vial), 50 x 50 $\mu$ l reactions
172-5085	<b>SingleShot™ SYBR® Green One-Step Kit</b> , 100 x 50 $\mu$ l reactions

Visit [bio-rad.com/web/CFXConnectSpecs](http://bio-rad.com/web/CFXConnectSpecs) 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.

Purchase of iTaq DNA Polymerase 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. No other patent rights are conveyed expressly, by implication, or by estoppel. 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.

The use of iQ, SsoAdvanced, and SsoFast Supermixes is covered by one or more of the following U.S. patents and corresponding patent claims outside the U.S.: 5,804,375; 5,538,848; 5,723,591; 5,876,930; 5,994,056; 6,030,787; 6,171,785; and 6,258,569. The purchase of these products includes a limited, non-transferable immunity from suit under the foregoing patent claims for using only this amount of product for the purchaser's own internal research. No right under any other patent claim and no right to perform commercial services of any kind, including without limitation reporting the results of purchaser's activities for a fee or other commercial consideration, are conveyed expressly, by implication, or by estoppel. These products are for research use only. Diagnostic uses under Roche patents require a separate license from Roche. 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 Numbers 7,347,977; 6,340,589; and 6,528,302.



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