

# LightCycler<sup>®</sup> 96 Real-Time PCR System

## Technical Specifications

### General

<b>LightCycler<sup>®</sup> 96 Instrument</b>	Cat. No. 05 815 916 001
<b>Weight</b>	approx. 25 kg
<b>Dimensions</b>	W x D x H: 40 x 40 x 53 cm
<b>Noise level during run</b>	43 dB(A)

<b>Electrical approvals</b>	CE, ICE, UL
<b>Reaction volumes</b>	10–50 µl
<b>Sample format</b>	96-well plates, 8-tube strips
<b>Runtime</b>	< 40 min for 3-step 40 cycles PCR
<b>Melting measurement</b>	Continuous with 1–25 data points/°C



### Hardware

<b>Thermal cycling system</b>	Peltier-based, 96-well block
<b>Max ramp rate heating</b>	4.4°C
<b>Average ramp rate cooling</b>	2.2°C
<b>Programmable temperature range</b>	37–98°C
<b>Temperature accuracy</b>	±0.2°C of programmed target temperature
<b>T<sub>M</sub> uniformity</b>	Range (max–min) 0.4°C SD < 0.1°C
<b>Gradient function</b>	Yes
<b>Gradient operational range</b>	37–98°C
<b>Gradient programmable span (X–Y °C)</b>	Max. 20°C gradient range
<b>Excitation</b>	High-power broad spectrum LED
<b>Measurement (integration time)</b>	Simultaneous data acquisition for all positions in 10–1000 ms (dynamic mode)
<b>Detection</b>	CCD Camera
<b>Optical system</b>	Fixed fiber optics with four excitation and four emission filters No moving scanning elements
<b>C<sub>q</sub> uniformity</b>	Range (max–min) 0.8 SD < 0.2 (enabling resolution of 2-fold concentration differences)

For life science research only.  
Not for use in diagnostic procedures.

<b>Analysis Software</b>	
<b>Operating systems</b>	Win 7 + Win XP
<b>Data analysis</b>	Abs Quantification Rel Quantification T <sub>M</sub> Calling Endpoint Genotyping HRM* Qual Detection*
<b>Data export</b>	Result table: export as .txt file Charts: Data and image export
<b>Data import</b>	Sample information can be imported from Excel, .csv or .txt files
<b>Failure flagging</b>	Automated flagging for critical controls (e.g., positive control is negative or negative control is positive) User definable flagging for further criteria (e.g. standard curve with error greater than x)
	*Included in free upgrade to software version 1.1
<b>Disposables</b>	
<b>Multiwell Plates</b>	LightCycler® 480 Multiwell Plates 96, white (including sealing foils) Cat. No. 04 729 692 001
<b>8-Tube Strips</b>	LightCycler® 8-Tube Strips, white (including clear caps) Cat. No. 06 612 601 001
<b>Reagents (5 x 1 ml)</b>	
<b>SYBR Green Master</b>	FastStart Essential DNA Green Master Cat. No. 06 402 712 001
<b>Probes Master</b>	FastStart Essential DNA Probes Master Cat. No. 06 402 682 001
<b>HRM Master</b>	LightCycler® 480 High Resolution Melting Master Cat. No. 04 909 631 001
<b>Assays</b>	
<b>Universal Probe Library</b>	www.universalprobelibrary.com
<b>RealTime ready gene expression assays</b>	www.configurator.realtimeready.roche.com
<b>Run Mode</b>	
<b>Stand alone</b>	Touchscreen support for instrument configuration Flexible experiment programming and execution Online fluorescence display
<b>PC connected</b>	PC monitoring, analyzing tools and programming
<b>LAN connected</b>	Support of online monitoring using LAN connection Support of remote Roche Service
<b>External devices</b>	Support of external barcode scanner using USB connection
<b>Instrument active communication</b>	Email notification, with success or failure messaging and optional experiment file attachment
<b>Applications</b>	
<b>Licensed for real-time PCR</b>	Yes
<b>Dynamic range</b>	10 orders of magnitude
<b>Range of excitation/emission wavelengths (nm)</b>	470/514 (SYBR, FAM, ResoLight dye) 533/572 (VIC, Hex, Yellow555) 577/620 (Red610, Texas Red) 645/697 (Cy5)
<b>Detection formats</b>	Intercalating dyes (SYBR Green I, ResoLight dye) Hydrolysis Probes (TaqMan® Probes and UPL)
<b>Multiplex analysis</b>	Up to 4 channels, pre-calibrated color compensation (no user interaction necessary) All channels can be viewed by the SW in one chart simultaneously or viewed in 4 charts separately on one screen
<b>Additional dye available</b>	For mono color experiments any dye between 500 and 720 nm emission wavelength can be used For dual color experiments only pre-calibrated dyes usable
<b>Passive reference dyes (e.g., Rox)</b>	Not necessary

## www.lightcycler96.com

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