LightCycler® Systems
Excellence in real-time PCR

Whether your interest is in gene expression profiling or in detecting genetic variations, there is a member of the LightCycler System family offering the analytical performance and throughput you need for your research. Supported by a broad range of software tools, real-time PCR based analysis can be performed in 32 capillaries or plastic tubes, interchangeable 96-/384-well plates, or using the unique 1536-well format or tube based formats.

For additional information see lifescience.roche.com

Your benefit

High precision
- Reproducible results independent of the sample position

High flexibility
- Suitable for all common assay formats and dyes

High sensitivity
- Even single copies can be detected

High operator convenience
- Data analysis according to your needs

Versatility
- Absolute or relative quantification, melting curve analysis or genotyping – the software offers all options

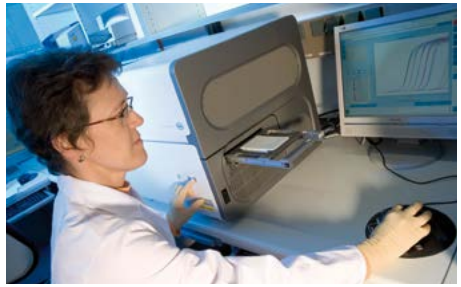
*LightCycler 96 System**

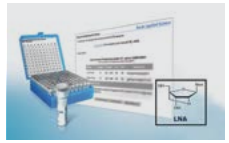
LightCycler 2.0 Instrument (IVD)

*LightCycler 480 System**

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

Available reagents
- Generic kits for PCR and RT-PCR
- Parameter-specific kits Research Use Only
- Parameter-specific kits IVD
- Ready to use custom assays and panels for all available LightCycler Systems (e.g., Universal ProbeLibrary and RealTime ready)





Universal ProbeLibrary

RealTime ready

Product characteristics

	LightCycler® 2.0 Instrument	LightCycler 480 System (96/384)	LightCycler 96 System
Throughput	1–32 reactions	1–96 or 1–384 reactions	1–96 reactions
Hardware	6 detection channels	5 excitation and 6 detection filters	
Disposable	Capillaries	96 or 384 multiwell plates	96 multiwell plates or tube strips
System features	• Excellent temperature homogeneity in all wells/vessels • No need for passive reference dyes • 40 cycles are possible in 40 minutes • Freely programmable protocols, data import and export, creation of macros and templates.		
Assay formats	SYBR Green I, hydrolysis and hybridization probes	SYBR Green I, hydrolysis and hybridization probes	SYBR Green I, hydrolysis probes
Reagents	• Generic kits for PCR and RT-PCR • Ready-to-use custom assays • Parameter-specific kits	• Generic kits for PCR and RT-PCR • Ready-to-use custom assays and panels • Parameter-specific kits	• Generic kits for PCR and RT-PCR • Ready-to-use custom assays and panels • Parameter-specific kits

LightCycler® 2.0 Instrument is available as IVD in many countries. Information about the low throughput LightCycler® Nano System and the high-throughput LightCycler® 1536 System is available on request.

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LightCycler® 2.0 Instrument

High performance that meets the needs of IVD

The LightCycler 2.0 System is an innovative real-time PCR platform that uses a fluorescence detection system and high-quality reagents for a wide range of applications in *in vitro* diagnostics and in medical research.

It offers a multitude of innovative features, ranging from optimized validated software to six different detection channels.

Your benefit

- Safety and ease of use in the IVD mode, including test-specific reagent kits, and PCR macros that can automate instrument programming, test analysis and result reporting
- The research mode offers flexible programming, editing and user evaluation
  - Versatility in application options e.g., qualitative and quantitative detection, mutation detection by melting curve analysis and SNP genotyping
  - Broad choice of detection formats

LightCycler 2.0 Instrument (IVD)

Product characteristics

- Compact desktop model
- 35 cycles in about fast 40 min.
- Reaction batch of 1–32 samples 20 µL or 100 µL capillaries
- 6 detection channels for 530, 560, 610, 640, 670, and 710 nm
- Versatile detection formats: SYBR Green, hybridization probes, hydrolysis probes, SimpleProbe probes, Scorpion primers, and other FRET-based detection formats
- Online display of the PCR kinetics

Test kits, validated for IVD

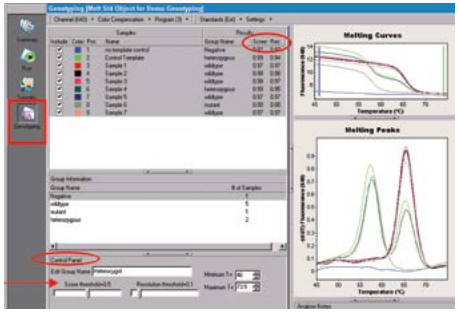
- CMV quantification
- EBV quantification
- HSV 1/2 detection and differentiation
- VZV detection
- MRSA advanced detection
- Septi*Fast* identification of bacteria and fungi
- Septi*Fast* mec A resistance screening
- Factor V mutation detection
- Factor II mutation detection

For medical research

- HAV quantification
- Parvo B19 quantification
- VRE resistance screening
- Translocation (9;22) quantification

Include	Color	Pos	Name	Calls: Combined	Calls: Target	Calls: Control
☑		1	no template control	Success	Negative	Success
☑		2	Negative Control	Success	Negative	Success
☑		3	Positive Control	Success	Positive	Success
☑		4	Sample 1	Positive	Positive	Success
☑		5	Sample 2	Positive	Positive	Success
☑		6	Sample 3	Negative	Negative	Success
☑		7	Sample 4	Positive	Positive	Success
☑		8	Sample 5	Positive	Positive	Success

Data display for a qualitative detection analysis



Genotyping analysis

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LightCycler® Septi*Fast* Test

Rapid identification of sepsis pathogens

Sepsis is a leading, infectious complication for critically ill patients. It represents about 15 % of all nosocomial infections. Despite improvements in medical care, sepsis is still a challenge for internal medicine. Any delay in the management of infection is deleterious, especially in patients whose illness is severe. Shortening this delay is of paramount importance. In the LightCycler Septi*Fast* test, Roche offers a molecular test that detects the presence of microorganisms responsible for approx. 90 % of all sepsis cases seen on intensive care units.

Your benefit

Broad coverage of sepsis pathogens

- Approx. 90 % of all potential sepsis pathogens are detected in a single PCR

Fast results with minimal sample volume

- Detection within 6 hours starting with just 1.5 mL of whole blood

Broad application

- DNA detection also possible during antibiotic therapy
- Resistance screening possible with the LightCycler SeptiFast mecA Test

25 different pathogens can be identified with dem LightCycler Septi*Fast* Test

Gram (-) bacteria	Gram (+) bacteria	Fungi
• Escherichia coli • Klebsiella (pneumoniae/oxytoca) • Serratia marcescens • Enterobacter (cloacae/aerogenes) • Proteus mirabilis • Pseudomonas aeruginosa • Acinetobacter baumannii • Stenotrophomonas maltophilia	• Staphylococcus aureus* • CoNS (Coagulase negative Staphylococci) • Streptococcus pneumoniae • Streptococcus spp • Enterococcus faecium • Enterococcus faecalis	• Candida albicans • Candida tropicalis • Candida krusei • Candida glabrata • Candida parapsilosis • Aspergillus fumigatus

** If positive, resistance can be tested with LC SeptiFast mecA test.*

LightCycler® MRSA Advanced Test

Enabling improved infection control

The incidence of hospital-associated methicillin-resistant *Staphylococcus aureus* (MRSA) is on the rise around the globe. Studies in Europe and the United States suggest that 28 – 34 % of patients infected with MRSA will even die from their infection. These findings have serious implications for patients, physicians, and hospitals. The increased rates of MRSA also have significant economic implications.

The LightCycler MRSA Advanced test offers a simple, flexible and reliable way to incorporate MRSA surveillance into your hospital's infection control program.

Your benefit

- Fast results: Results available within 100 min.
- Simple: Sample preparation procedure involves no pipetting steps
- Flexible: Validated for use with 3 different swabs and provided in a convenient, ready-to-use format
- Reliable results: The only rapid MRSA test containing the Roche AmpErase® enzyme, able to prevent carry-over amplicon contamination that lead to false positive results

Ensure fast and simple operation




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