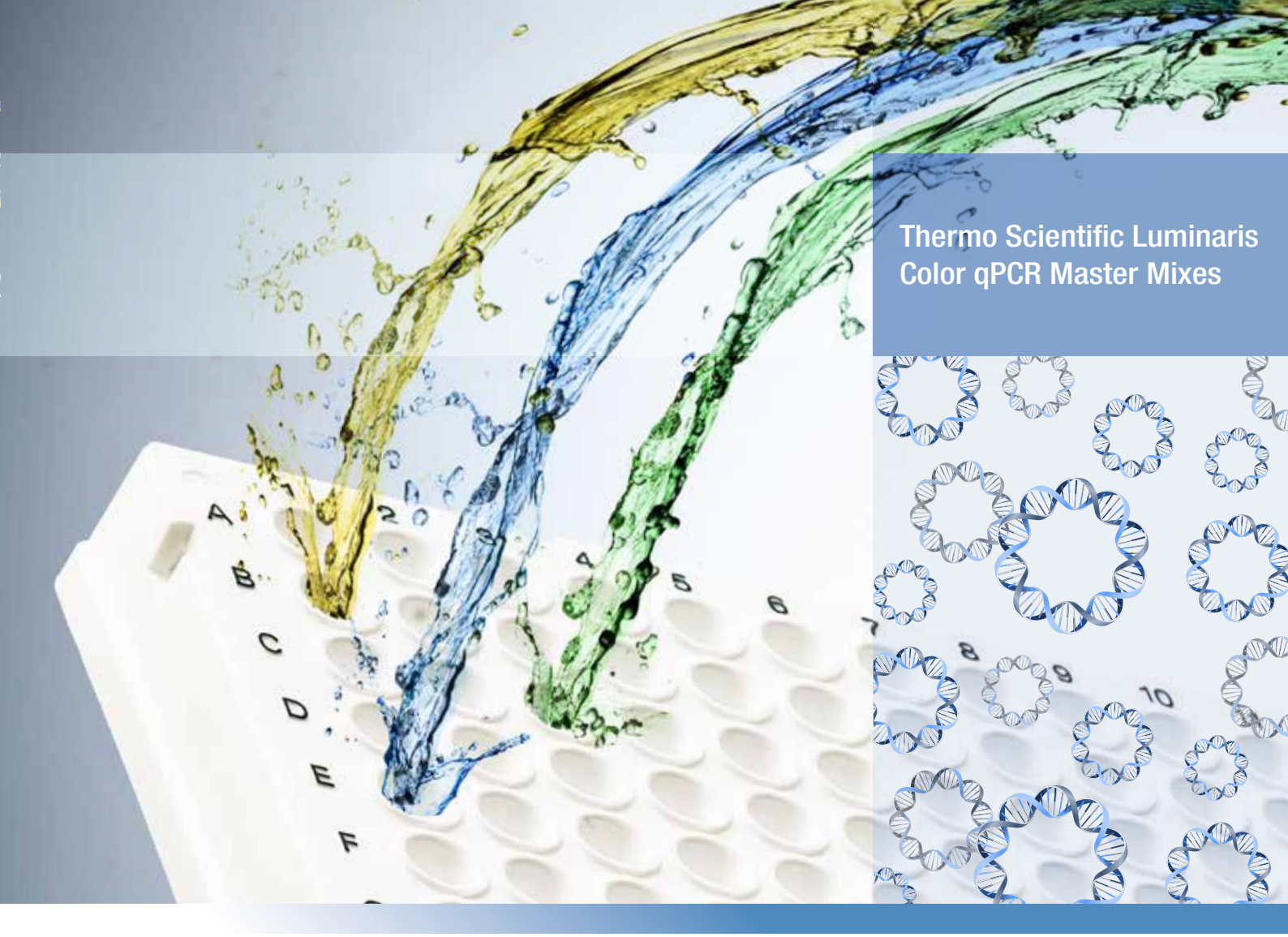


Thermo Scientific Luminaris Color qPCR Master Mixes

Specific, safe & colorful

real-time PCR

- Specificity • Sensitivity • Colors
- Carry-over contamination control
- HRM analysis

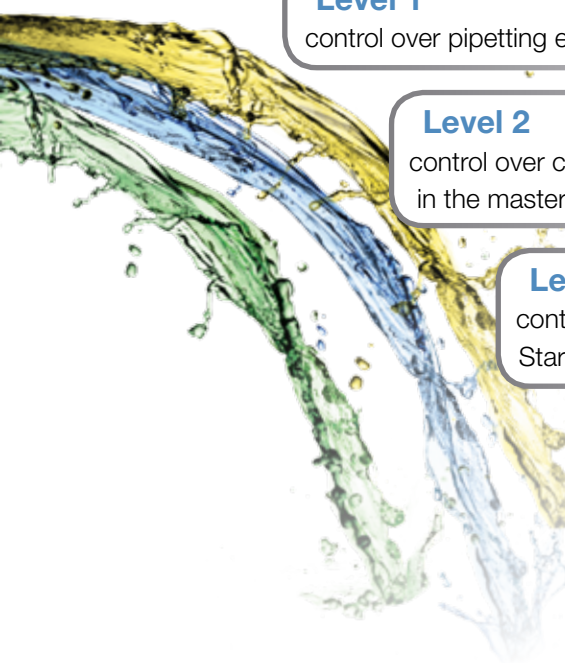
Fisher Scientific

Thermo SCIENTIFIC

Become a luminary in your qPCR world

Thermo Scientific™ Luminaris™ Color products are an advanced line of high performance qPCR Master Mixes with built-in multilevel control system for perfect real-time PCR.

The Luminaris qPCR Master Mixes are specially formulated to produce the most consistent and reproducible qPCR data by using four levels of control over variation in your real-time PCR:



Level 1
control over pipetting error by providing colored reagents

Level 2
control over carry-over contamination by providing UDG in the master mix

Level 3
control over non-specific amplification by using Hot Start Taq polymerase of ultra low residual activity

Level 4
control over false negatives with qPCR sensitivity down to single copy detection

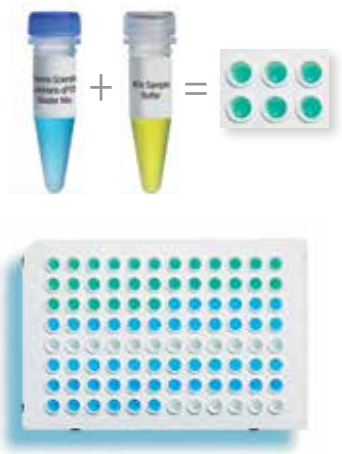
Features

- Blue Master Mix and Yellow Sample Buffer for easy pipetting
- UDG in the Master Mix to prevent carry-over contamination
- Excellent qPCR performance:
  - high specificity – no primer dimers
  - wide dynamic range – accurate quantification across nine orders of magnitude
  - sensitivity – single copy detection
  - high reproducibility
  - high stability – 72 hours after reaction setup
- Specialized formulations for probe and SYBR® Green chemistries across qPCR platforms
- Standard cycling protocol

Colors for control over pipetting process*

Luminaris Color qPCR Master Mixes incorporate an inert blue dye, which does not affect the qPCR reaction, but significantly enhances the contrast between the reagent and plastic. The Yellow Sample Buffer complements the color system by making the overall dispensing of qPCR reaction components quick and easy. This is particularly important for users of opaque white reaction plates and tubes, generally recognized as giving superior qPCR results.

* Luminaris Master Mixes are also available in colorless formulations. The performances of Luminaris (colorless) and Luminaris Color Master Mixes are equal.

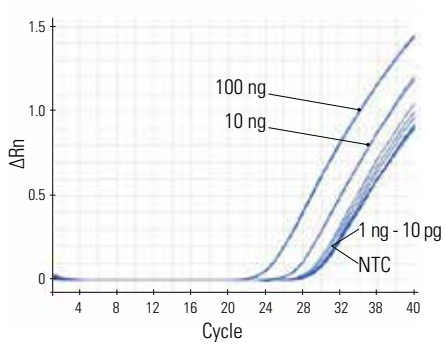


◀ **Colored solutions for reaction setup in white plates.** Blue Luminaris Color qPCR Master Mix combined with the Yellow Sample Buffer turns the solution green.

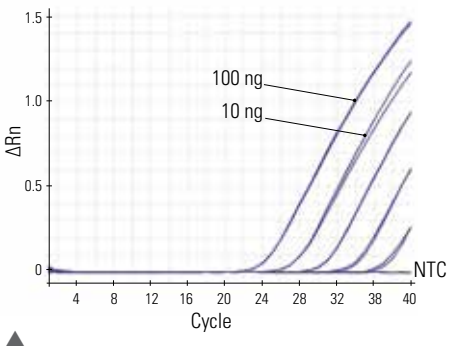
UDG for control over carry-over contamination

Due to the high sensitivity of qPCR, even minute amounts of contaminating DNA can lead to false positive results. The UDG enzyme included in Luminaris qPCR Master Mix degrades possible carry-over amplicons from previous qPCR runs. This ensures amplification of only specific products from the sample and not from the environment.

DNA spike compromises qPCR results



UDG removes DNA spike prior qPCR

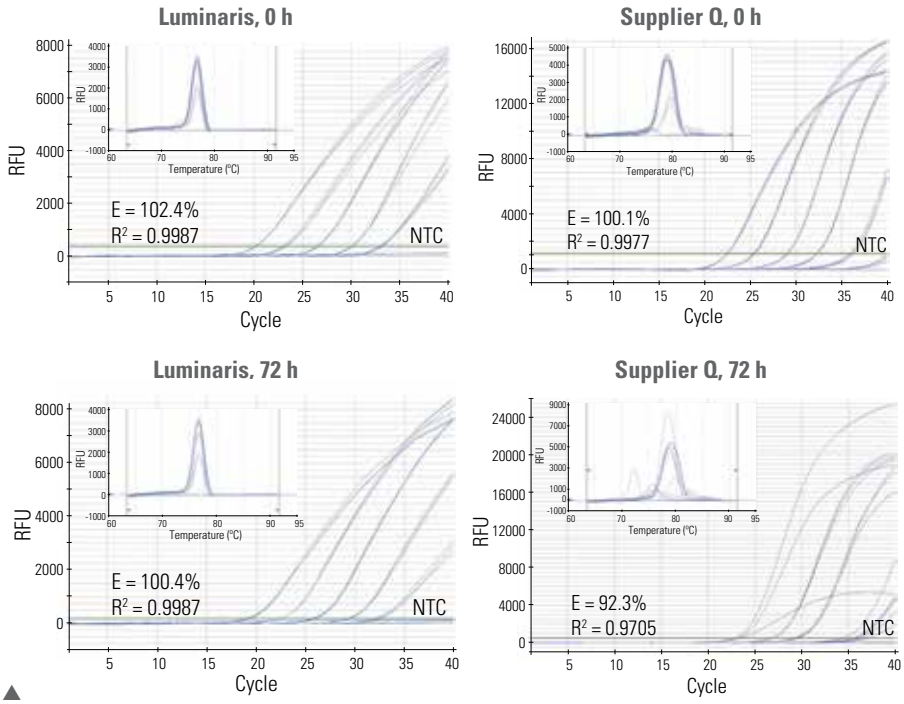


▲

UDG effectively removes carry-over contamination in qPCR.
Amplification of PGK-1 gene was performed from 100 ng - 10 pg of human genomic DNA spiked with dU-containing PCR product (3000 copies/sample). DNA was amplified with or without UDG treatment step on ABI StepOnePlus™ Real-time PCR instrument using Thermo Scientific™ Luminaris™ Color Probe High ROX qPCR Master Mix. NTC is the no-template control.

Stringent Hot Start chemistry and optimized buffer system for specificity and sensitivity

Luminaris Color qPCR Master Mixes are created to provide the highest specificity in qPCR. The chemically modified Hot Start Taq DNA polymerase has ultra low residual activity until thermally activated. This ensures that reactions can be stored for up to three days after reaction setup with no impact on reaction specificity or sensitivity. Sustained by specially optimized reaction buffer the polymerase forgoes non-specific amplification and formation of primer dimers. The highly sensitive qPCR detection down to single copy of the target allows accurate quantification of genomic, plasmid, viral and cDNA templates.



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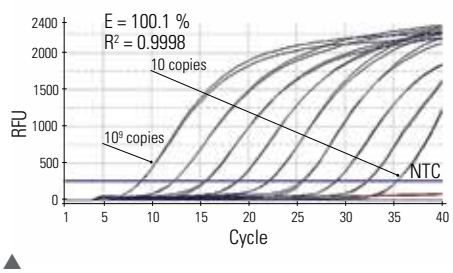
Exceptionally low residual activity of Hot Start Taq DNA polymerase enables unmatched stability of fully assembled qPCR reactions.
Human PPP1CA gene was amplified from genomic DNA (100 ng – 10 pg) using Thermo Scientific™ Luminaris™ Color HiGreen qPCR Master Mix and a master mix from supplier Q. Reaction mixes were loaded into the Thermo Scientific™ PikoReal™ 96 Real-Time PCR System immediately or 72 h after the reaction setup. Amplification curves and melting curve analysis indicate high specificity and sensitivity of reactions with Luminaris master mix.



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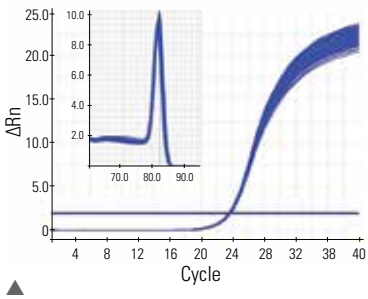
Wide dynamic range
10 to 10^9 copies of plasmid DNA were amplified using the Thermo Scientific™ Luminaris™ Color Probe qPCR Master Mix on the PikoReal 96 Real-Time PCR System. NTC is the no-template control.



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High reproducibility at CV < 1%.
Human c-Myc gene was amplified in 96 individual reactions from 10 ng of human genomic DNA with Thermo Scientific™ Luminaris™ Color HiGreen Low ROX qPCR Master Mix on ABI 7500 Real-Time PCR instrument. Calculated CV=0.24%.

Discriminate sequence variations with ease and accur

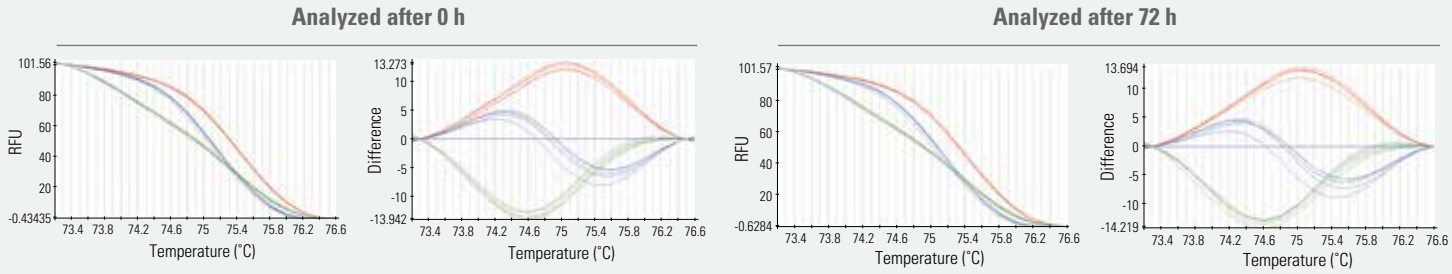
Thermo Scientific™ Luminaris™ Color HRM Master Mix is formulated to discriminate the differences in melting behavior between sequence variants.

High-Resolution Melting (HRM) analysis is a method used for fast, high-throughput post-PCR analysis of genetic variance in nucleic acid sequences. The method is based on detecting small differences in dissociation of double-stranded PCR products, which depends on the product length, GC content, strand complementarity and base pair changes in DNA sequence.

Luminaris Color HRM Master Mix complements Thermo Scientific™ PikoReal™ 96 Real-Time PCR System and software to provide maximum discrimination between sequence variants. The HRM Master Mix contains Hot Start Taq DNA polymerase in buffer system with EvaGreen™ fluorescent dye for robust and reliable performance in PCR and HRM. Luminaris Color HRM Master Mix is suitable for a broad range of applications, including SNP analysis, mutation scanning, screening for heterozygosity and CpG methylation analysis.

Features

- High performance on most real-time instruments with HRM capabilities
- Dual-color system for easy reaction setup
- Superior discrimination of all SNP classes
- High sensitivity – accurate results from 30 copies of genomic DNA
- Exceptional stability of fully assembled reaction – for high-throughput applications



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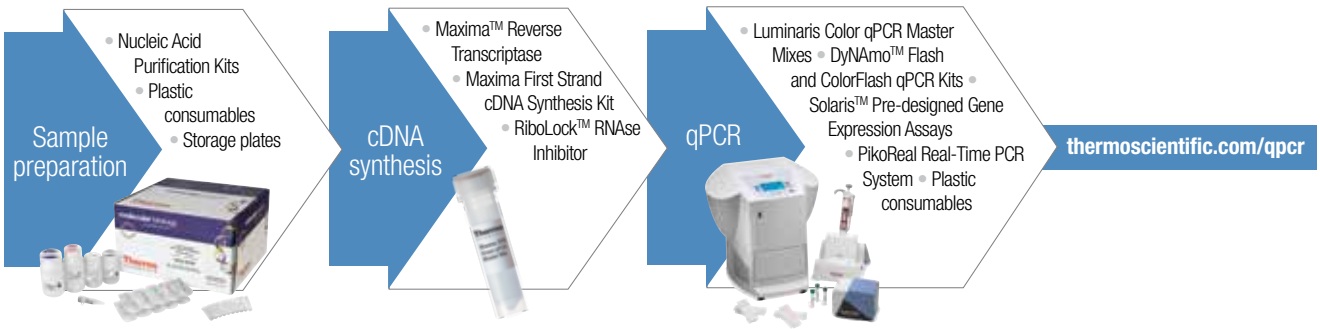
Superior reaction stability enables accurate genotyping in high-throughput applications.
Clear and accurate distinction of type II SNP using Luminaris Color HRM Master Mix on Thermo Scientific™ PikoReal™ 96 Real-Time PCR System.
The images represent HRM analysis results of reactions that were loaded immediately or 72 h after reaction setup (left and right plots, respectively).
Different genotypes are highlighted: homozygotes – red and blue, heterozygote – green.

Everything for your Thermo Scientific qPCR workflow



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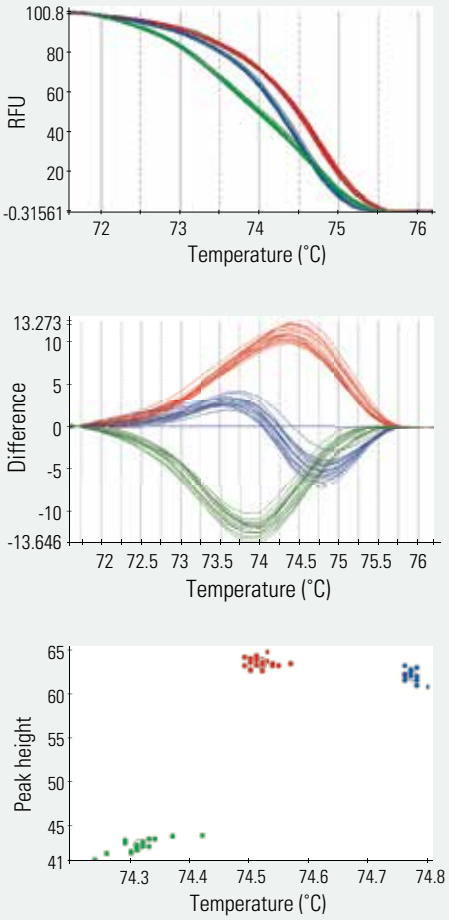
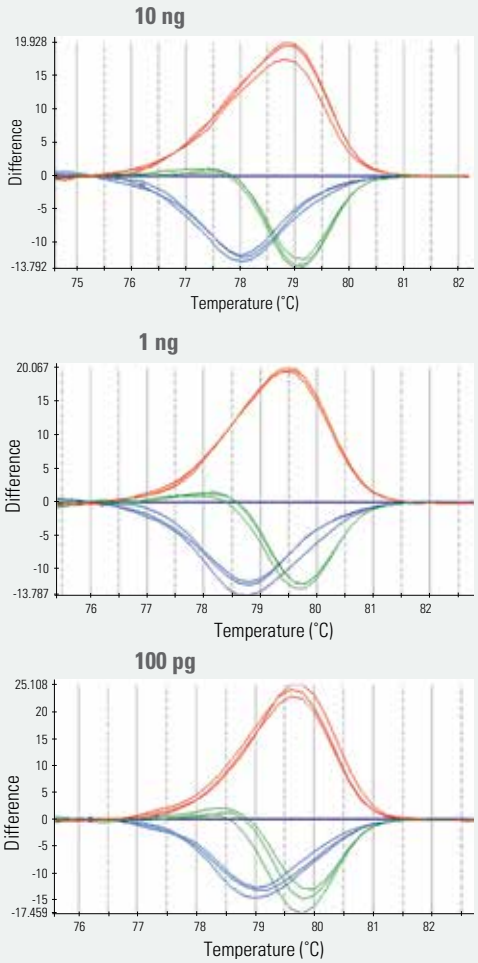


◀ **Reproducible discrimination of type IV SNP.** Analysis of HRM data from genotyping of type IV SNP in multiple replicates of human genomic DNA using Luminaris Color HRM Master Mix on PikoReal 96 Real-Time PCR System. Different genotypes are highlighted: A/A - red, A/T - green, and T/T - blue. The results presented in normalized melting curve plot (top), difference plot (middle) and genotype discrimination scatter plot (bottom).



◀ **High sensitivity of HRM Master Mix allows wide range of template input.** Discrimination of type II SNP in reactions with 10 ng, 1 ng and 100 pg of human genomic DNA (2900, 290 and 29 copies, respectively) produced using Luminaris Color HRM Master Mix on PikoReal 96 Real-Time PCR System. Different genotypes are highlighted: C/C - red, C/A - green, and A/A - blue.

Real-Time PCR instrument compatibility

Luminaris Color and Luminaris (colorless) Master Mixes are provided for probe or SYBR Green detection. Individual formulations with ROX or fluorescein as passive reference dyes are available for most qPCR platforms.

		Probe Detection			SYBR Green Detection			
		Probe High ROX qPCR Master Mix	*Probe Low ROX qPCR Master Mix*	*Probe qPCR Master Mix*	*HiGreen High ROX qPCR Master Mix*	*HiGreen Low ROX qPCR Master Mix*	*HiGreen Fluorescein qPCR Master Mix*	*HiGreen qPCR Master Mix*
Thermo Scientific	PikoReal 24 Real-Time PCR System, PikoReal 96 Real-Time PCR System			***				***
Life Technologies	7000, 7300, 7700, 7900, 7900HT, StepOne Plus™, StepOne™	***			***			
	7500, 7500 Fast, ViiA™ 7, QuantStudio™ 12K		***			***		
Bio-Rad	CFX96™, CFX384™, MiniOpticon™, Opticon®, Opticon 2, Chromo4™			***				***
	MyiQ™, iQ5™, iCycler® iQ,			***			***	***
Agilent Technologies	Mx4000®, Mx3005P®, Mx3000P®		***			***		
Roche Diagnostics	LightCycler®480, LightCycler® 1.5, LightCycler® 2.0			***				***
QIAGEN	Rotor-Gene™ 3000, Rotor-Gene™ 6000, Rotor-Gene Q			***				***
Eppendorf	MasterCycler® ep realplex			***				***
Cepheid	SmartCycler® SmartCycler® II			***				***
Techne	PrimeQ			***				***
Illumina	Eco Real-Time PCR System			***				***

Order details

Product	Reactions of 20 µL	Luminaris Color Cat. #	Luminaris Colorless Cat. #
Luminaris Color Probe High ROX qPCR Master Mix **Luminaris Probe High ROX qPCR Master Mix (colorless)**	250 rxns	K0331	K0931
	500 rxns	K0332	K0932
	1250 rxns	K0333	K0933
	5000 rxns	K0334	K0934
Luminaris Color Probe Low ROX qPCR Master Mix **Luminaris Probe Low ROX qPCR Master Mix (colorless)**	250 rxns	K0341	K0941
	500 rxns	K0342	K0942
	1250 rxns	K0343	K0943
	5000 rxns	K0344	K0944
Luminaris Color Probe qPCR Master Mix **Luminaris Probe qPCR Master Mix (colorless)**	250 rxns	K0351	K0951
	500 rxns	K0352	K0952
	1250 rxns	K0353	K0953
	5000 rxns	K0354	K0954
Luminaris Color HiGreen High ROX qPCR Master Mix **Luminaris HiGreen High ROX qPCR Master Mix (colorless)**	250 rxns	K0361	K0961
	500 rxns	K0362	K0962
	1250 rxns	K0363	K0963
	5000 rxns	K0364	K0964
Luminaris Color HiGreen Low ROX qPCR Master Mix **Luminaris HiGreen Low ROX qPCR Master Mix (colorless)**	250 rxns	K0371	K0971
	500 rxns	K0372	K0972
	1250 rxns	K0373	K0973
	5000 rxns	K0374	K0974
Luminaris Color HiGreen Fluorescein qPCR Master Mix **Luminaris HiGreen Fluorescein qPCR Master Mix (colorless)**	250 rxns	K0381	K0981
	500 rxns	K0382	K0982
	1250 rxns	K0383	K0983
	5000 rxns	K0384	K0984
Luminaris Color HiGreen qPCR Master Mix **Luminaris HiGreen qPCR Master Mix (colorless)**	250 rxns	K0391	K0991
	500 rxns	K0392	K0992
	1250 rxns	K0393	K0993
	5000 rxns	K0394	K0994
Luminaris Color HRM Master Mix	250 rxns	K1031	
	1250 rxns	K1032	
40x Yellow Sample Buffer	4 × 1.25 mL	R1381	
ROX Solution, 50 µM	1 × 1 mL	R1371	

Composition:
Luminaris Color qPCR Master Mix: 2x Master Mix containing blue dye, 40x Yellow Sample Buffer and Water (nuclease-free).
Luminaris qPCR Master Mix: 2x Master Mix (colorless) and Water (nuclease-free).
Luminaris Color HRM Master Mix: 2x Master Mix containing blue dye, 40x Yellow Sample Buffer and Water (nuclease-free).

- Learn more at **thermoscientific.com/qPCR**

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Austria: +43 (0) 800 20 88 40 **Belgique/België:** +32 (0) 056 260 260 **Denmark:** +45 070 27 99 20
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