

Product survey: Real-time PCR kits

TaqMan or SYBR Green?

That's the question when it comes to the preferred detection chemistry in Real-Time PCR kits. Though there are other techniques available, most researchers performing Real-Time PCR rely on TaqMan probes or SYBR Green dyes.

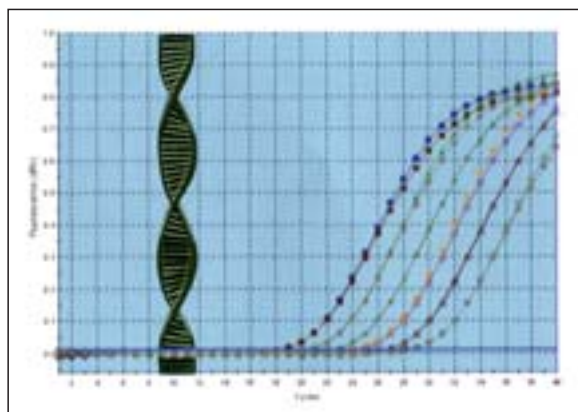
According to a Real-Time PCR survey conducted by the Association of Biomolecular Research Facilities subdivision NARG (Nucleic Acids Research Group) in 2007, the average Real-Time PCR guy measures gene expression applying SYBR Green or TaqMan probes, uses a heat activated Taq-polymerase together with a commercial master mix and relies on ROX as a reference dye in a 25 microlitre reaction. The NARG people have found out even more about the ordinary Real-Time PCR user, however, they have forgotten to mention one of his most prominent attributes: many of today's Real-Time PCR users are heavily addicted to Real-Time PCR kits.

Though it's no big deal to prepare homemade Real-Time PCR reaction and master mixes, most researchers prefer kits. They are probably tempted by the countless kits available even though there is nothing fancy about the kits' content. Most of them contain the same few basic things necessary for conducting Real-Time PCR: a heat stable DNA polymerase, dNTPs, MgCl₂, Tris Buffer and, depending on the preferred detection chemistry, probes or a SYBR Green dye. Some master mixes are also supplemented with dUTP and a heat-labile uracil-DNA glycosylase (UDG). Molecular biologists have been applying the latter two substances since the early 1990's to prevent carry-over of un-specific DNA between PCR reactions. Adding dUTP ensures that uracil is incorporated into any newly synthesised non-specific PCR products. UDG removes any uracil residue and thus restrains the polymerase from further amplifying un-specific DNA. After this decontamination step, UDG is heat-inactivated and the target sequence is amplified in the following cycles.

Hot start antibodies

Differences among Real-Time PCR kits are largely restricted to the DNA polymerases and the detection methods used. Good old Taq polymerase, usually as recombinant or chemical modified enzyme, is still very common in many Real-Time PCR kits. To

bridle Taq's background activity at low temperatures some manufacturers add Taq directed antibodies to the enzyme mixture. These so called hot start antibodies inhibit the polymerase activity during ambient temperatures. As soon as the PCR enters the initial denaturation step, the antibodies are heat-inactivated and the Taq polymerase kicks off with a hot start. Blocking the formation of primer dimers with a single-stranded DNA-binding protein is another strategy to avoid the generation of non-specific products whilst setting up the PCR. The DNA-binding protein simply "catches" the



primers during low temperatures to keep them away from the polymerase. Similar to the hot start antibodies, the DNA-binding protein is heat-inactivated during the initial denaturation step to release the primers.

The kind of polymerases used in a kit or whether the kit allows automatic hot start PCR, or not, are relevant buying considerations. However, the decision to purchase a certain Real-Time PCR kit might be ruled in most cases by the favoured detection assay. According to the NARG survey, the community of Real-Time PCR users is split into two major groups: aficionados of sequence-specific probe assays and advocates of non-specific DNA-binding dye assays.

Linear sequence-specific oligo probes, commonly known as TaqMan probes, bear a fluorescent reporter dye at the 5'-end and a quencher molecule at the 3'-end. Usually, they are designed to anneal at a sequence slightly downstream of one of the PCR primers. Since fluorescence dye and quencher

are in close proximity, the fluorescence is quenched and not detectable. As soon as the Taq polymerase reaches the 5'-end of the probe it cuts-off the fluorescence dye utilising its 5'-3' nuclease activity, thereby releasing the fluorescent reporter into solution. The resulting increase in fluorescence can be measured to monitor the amplification of the target DNA.

Light disappears in the black hole

Since the early days of TaqMan probes, which were dominated by the dye/quencher combination FAM and TAMRA, a lot of new dye/quencher pairings have been introduced. Amongst them are dyes like Texas Red, Cy3 and Cy5 as well as dark quenchers such as Black Hole Quenchers, which dissipate the exciting energy absorbed from the fluorescence dye as heat rather than light. Researchers have also been very active in developing new sophisticated probes, for example, molecular beacons, scorpion primers and locked nucleic acid (LNA) oligo probes. All of these probes are very specific, however, they are rather expensive and a new probe has to be designed for every new target DNA, which is not always an easy task.

If extra specificity is not necessary, one may circumvent these drawbacks by switching to Real-Time PCR assays based on fluorescent DNA-binding dyes such as SYBR Green I. The latter intercalates non-specifically into double-stranded DNA which leads to a thousand-fold increase of the fluorescence signal. Since the amount of DNA is boosted with every new cycle, the fluorescence increases proportionally and can be monitored to measure the amplification of the target DNA. A brief look at the NARG survey shows that half of all Real-Time PCR users employ this easy and cost-effective technique. If you are one of them, you may be interested in the many SYBR Green I Real-Time PCR kits to be found on the following pages. TaqMan probe followers please don't despair, your needs have not been neglected here either!

HARALD ZÄHRINGER

Real Time PCR Kits

Company/Distributor	Name of Product	Detection method	Miscellaneous, Specialities, Generally	Price [EUR]
Agilent Technologies Waldbronn, Germany www.agilent.com/ chem/contactus Contact: Stratagene_bioreagents@ agilent.com	Brilliant II FAST QPCR Master Mix	Probe based	<ul style="list-style-type: none"> ■ 40 cycles of PCR in approximately 48 min ■ Rapid HotStart capability ■ Earlier Ct detection across a wide dynamic range ■ Increased sensitivity of detection to low copy numbers ■ Optimized for Stratagene's Mx3000P and Mx3005P systems 	376,-
	Brilliant II FAST SYBR QPCR Master Mix	SYBR Green based	■ See above	376,-
	Brilliant II QPCR Master Mix Brilliant II QRT-PCR Master Mix, 1-Step Brilliant II QRT-PCR, AffinityScript Master Mix, 2-Step	Probe based	<ul style="list-style-type: none"> ■ Master mix ■ Earlier Ct detection across a wide dynamic range ■ Increased sensitivity of detection to low copy numbers ■ Optimized for Stratagene's Mx3000P and Mx3005P systems 	376,- 725,- 688,-
	Brilliant II QPCR Low ROX Master Mix Brilliant II QRT-PCR Low ROX Master Mix, 1-Step	See above	<ul style="list-style-type: none"> ■ Master Mix with ROX Reference Dye ■ Final ROX concentration 30nM ■ Earlier Ct detection across a wide dynamic range ■ Increased sensitivity of detection to low copy numbers ■ Stratagene's Mx3000P, Mx3005P and Mx4000 systems; ABI 7500 system 	376,- 725,-
	Brilliant II QPCR High ROX Master Mix Brilliant II QRT-PCR High ROX Master Mix, 1-Step	See above	<ul style="list-style-type: none"> ■ Master Mix with ROX Reference Dye ■ Final ROX concentration 500nM ■ Earlier Ct detection across a wide dynamic range ■ Increased sensitivity of detection to low copy numbers ■ ABI PRISM 7000 and 7700; ABI 7300,7900HT and 7900HT Fast systems 	376,- 725,-
	Brilliant Multiplex QPCR Master Mix	See above	<ul style="list-style-type: none"> ■ Amplifies up to 4 targets ■ Amplifies low & high abundance targets ■ Analysis of limited/rare samples ■ Saves time, increases throughput 	278,-
	Brilliant QPCR Core Reagent Kit Brilliant II QRT-PCR Core Reagent Kit, 1-Step	See above	<ul style="list-style-type: none"> ■ Core reagent kit ■ Improved performance with earlier Ct detection across a wide dynamic range ■ Increased sensitivity of det. to low copy numbers ■ Optimized for Stratagene's Mx3000P/ Mx3005P systems 	345,- 614,-
	Brilliant II SYBR Green QPCR Master Mix Brilliant II SYBR Green QRT-PCR Master Mix, 1-Step Brilliant II SYBR Green QRT-PCR AffinityScript Master Mix, 2-Step	SYBR Green-Based	<ul style="list-style-type: none"> ■ Master mix ■ Earlier Ct detection ■ Increased fluorescence ■ Improved data reproducibility ■ Greater flexibility ■ Optimized for Stratagene's Mx3000P and Mx3005P systems 	376,- 725,- 688,-
	Brilliant II SYBR QPCR High ROX Master Mix Brilliant II SYBR QRT-PCR High ROX Master Mix, 1-Step	See above	<ul style="list-style-type: none"> ■ Master Mix with ROX Reference Dye ■ Final ROX concentration 500nM ■ ABI PRISM 7000 and 7700; ABI 7300,7900HT and 7900HT Fast systems 	376,- 725,-
	Brilliant II SYBR QPCR Low ROX Master Mix Brilliant II SYBR QRT-PCR Low ROX Master Mix 1-Step	See above	<ul style="list-style-type: none"> ■ Master Mix with ROX Reference Dye ■ Final ROX concentration 30nM ■ Stratagene's Mx3000P, Mx3005P & Mx4000 systems; ABI 7500 syst. 	376,- 725,-
	Brilliant SYBR Green QPCR Core Reagent Kit	See above	■ Core reagent kit	345,-
	Alien QRT-PCR Inhibitor Alert plus Brilliant II SYBR Green QRT-PCR Master Mix, 1-Step or Brilliant SYBR Green QRT-PCR, AffinityScript Master Mix, 2-Step	See above	<ul style="list-style-type: none"> ■ High-quality external control ■ Highly sensitive to various inhibitors ■ No significant homology to any known sequences ■ Suited for assay standardization 	196,- 725,- 611,-
	High-Specificity miRNA QRT-PCR Detection Kit miRNA 1st-Strand cDNA Synthesis Kit plus High-Specificity miRNA QPCR Core Kit	EvaGreen-Based Detection	<ul style="list-style-type: none"> ■ Detects mature miRNA ■ Differentiate miRNA that differ by a single nucleotide ■ Sensitive detection down to 10 copies ■ Highly accurate results in 3 h ■ miRNA Specific Forward Primers 	474,- 297,- 267,-
	SideStep II QRT-PCR Master Mix Kit, 1-Step SideStep II QRT-PCR Master Mix Kit, 2-Step	Probe based	<ul style="list-style-type: none"> ■ Sample preparation for QPCR in 10 min ■ RNA stabilization at least 20 months ■ Gene expression down to single cell ■ Gen. DNA removal reagent ■ No toxic organ. chemicals or ethanol precipit. ■ Optimized for max. performance on Stratagene's Mx3000P & Mx3005P systems 	754,- 715,-
SideStep II SYBR Green QRT-PCR Master Mix, 2-Step Brilliant SYBR Green SideStep QPCR Master Mix	SYBR Green	■ See above	715,- 455,-	
AMS Biotechnology Abingdon, Oxon, UK www.amsbio.com Contact: Phillip Pridham Phone: +44 1235 828200 phillipp@amsbio.com	QCell-Eva One-Step qRT-PCR SuperMix Kit QCell-Eva One-Step qRT-PCR SuperMix Kit QCell-Pro One-Step qRT-PCR SuperMix Kit QCell-Pro One-Step qRT-PCR SuperMix Kit	Eva fluorescent dye hotstart Taq DNA polymerase mix	-	395,- (200 rxns) 595,- (400 rxns) 365,- (200 rxns) 575,- (400 rxns)
	miR-24 One-Step qRT-PCR Detection Kit miR-16 One-Step qRT-PCR Detection Kit	Analysis of miRNA expression	-	245,- (1 kit) 245,- (1 kit)
Applied Biosystems Darmstadt, Germany www.appliedbiosystems.com Contact: Phone +49(0)6151 9670 0 mb.support@ eur.appliedbiosystems.com	TaqMan Gene Expression Assays and Custom TaqMan Gene Expression Assays	5' Nuclease TaqMan MGB assay	<ul style="list-style-type: none"> ■ More than 1,000,000 TaqMan Gene Expression Assays ■ Run with the same PCR protocol ■ Custom Assays available ■ Real time platforms of Applied Biosystems 	173,- (inventoried) 294,- (made to order) 288,- to 1040,- (Custom made ass.)
	Custom Small RNA assays	RT and 5' Nuclease TaqMan MGB assay	■ Real time platforms of Applied Biosystems	308,- (small scale) 719,- (medium)
	TaqMan MicroRNA Gene Expression Assays Sanger 10.1	See above	<ul style="list-style-type: none"> ■ Assays target only mature microRNAs ■ Quantitate microRNAs with the specificity and sensitivity of TaqMan assay chemistry ■ miRNA Arrays available ■ Real time platforms of Applied Biosystems 	176,-
	TaqMan Pre-Designed Assays for SNP Genotyping	5' Nuclease TaqMan MGB assay	<ul style="list-style-type: none"> ■ Custom TaqMan SNP Genotyping Assays ■ TaqMan Drug Metabolism Genotyping Assays ■ TaqMan Pre-Developed Assay ■ Reagents for Allelic Discrimination ■ For further products please see our webpage ■ Real time platforms of Applied Biosystems 	Pre-designed as- says: 355,- (small) 670,- (medium) 1267,- (large) Custom SNP assays: 268,- (small), 556,- (med.), 1015,- (lar.)

Real Time PCR Kits

Company/Distributor	Name of Product	Detection method	Miscellaneous, Specialities, Generally	Price [EUR]
Applied Biosystems Contact see page 48	Taqman Gene Expression Mastermix 200 rxn	Specifically aimed for Genexpression	<ul style="list-style-type: none"> Optimized for TaqMan probes Real time platforms 	366,-
	Taqman Genotyping Mastermix 200 rxn	Specifically aimed for Genotyping	<ul style="list-style-type: none"> Optimized for TaqMan probes Real time platforms 	638,-
	TaqMan FAST Universal Mastermix (no UNG) 250 rxn	For Real Time machines with FAST programme	<ul style="list-style-type: none"> Optimized for 5' nuclease assay using TaqManprobes Real time platforms 	222,-
	Fast SYBR Green MMix 500 rxn	See above	<ul style="list-style-type: none"> Contains AmpliTaq Fast DNA polymerase UP Real time platforms 	385,-
	Power SYBR Green MMix 200 rxn	MasterMix	<ul style="list-style-type: none"> Optimized for SYBR Green 1 Real time platforms 	350,-
	SYBR Green MMix 200 rxn	MasterMix	<ul style="list-style-type: none"> Optimized for SYBR Green dye reactions 	345,-
BioCat Heidelberg, Germany www.biocat.com Contact: Elke Gamer Phone: +49(0)6221-7141516 gamer@biocat.com	EvaGreen qPCR SuperMix Kit	Intercalating Fluorescent dye	<ul style="list-style-type: none"> Minimized PCR inhibition Detect 20 copies of DNA Good linearity and PCR efficiency over 8 orders of magnitude Ready-to-use 2x master mix Amplify a broad range of templates All major brand block-based real-time PCR instruments 	195,- (200 rxns) 299,- (400 rxns)
	QCell EvaGreen One-Step qRT-PCR SuperMix Kit	See EvaGreen qPCR SuperMix Kit	<ul style="list-style-type: none"> Direct one-step format Minimize PCR inhibition Perform qRT-PCR from 1 cell or 1 pg total RNA Detect targets from a single cell to 10,000 cells Quick cell lysis procedure All major brand block-based real-time PCR instruments 	379,- (200 rxns) 579,- (400 rxns)
	Pro qPCR SuperMix Kit	Ready-to-use, 2x-concentrated master mix	<ul style="list-style-type: none"> For fluorescent probe-based qPCR assays or molecular beacons Good linearity & excellent PCR efficiency over 9 orders of magnitude Detect 10 copies of DNA Amplify a broad range of templates All major brand block-based real-time PCR instruments 	175,- (200 rxns) 279,- (400 rxns)
	QCell Pro One-Step qRT-PCR SuperMix Kit	Used w. fluorescent probe technologies for real-time PCR	<ul style="list-style-type: none"> Direct one-step format Perform qRT-PCR from 1 cell or 1 pg total RNA Detect targets from 1 to 10,000 cells Quick cell lysis procedure All major brand block-based real-time PCR instruments 	349,- (200 rxns) 549,- (400 rxns)
	SuperROX Passive Reference Dye	-	<ul style="list-style-type: none"> High stability Complete elimination of "ROX drop" e.g. Applied Biosystems Prism 7000, 7700 and 7900 instruments 	99,- (1 ml, larger sizes available)
	Real-Time PCR Probes and Primers	With CAL Fluor and Quasar Dyes and BHQ Dyes	<ul style="list-style-type: none"> Easy and cost effective probe synthesis More stable than conventional probes Optimized for use in Multiplex Real-Time PCR Fully compatible with the range of Real-Time PCR instruments 	On request
Biomol Hamburg, Germany www.biomol.de Contact: Edgar Lipsius Phone: 49(0)40/853260-37 e_lipsius@biomol.de	RT ² Profiler PCR Arrays	SYBR Green Real-Time PCR detection	<ul style="list-style-type: none"> Available for more than 100 pathways High sensitivity and specificity Wide dynamic range Customized PCR Arrays available All major Real-Time PCR instruments are supported 	630,- (96w, 2 Arr.) 1759,- (12 Arrays) 2899,- (24 Arrays) from 990,- (384-w.)
	RT ² miRNA PCR Arrays	SYBR Green Real-Time PCR detection	<ul style="list-style-type: none"> Distinguishes miRNA family members with single nucleotide mismatches High sensitivity and specificity Wide dynamic range Single assays for each individual miRNA available All major Real-Time PCR instruments are supported 	495,- (96-w., 2 Arr.) 1539,- (12 Arrays) 2419,- (24 Arrays) from 879,- (384-w.)
	Methyl-Profiler DNA Methylation PCR Arrays	SYBR Green Real-Time PCR detection	<ul style="list-style-type: none"> Without bisulfite conversion Combines restriction digest with quantitative Real-Time PCR Customized PCR Arrays available All major Real-Time PCR instruments are supported 	From 540,- (96-w.) from 959,- (384-w.)
Bio-Rad Laboratories München, Germany www.bio-rad.com/amplification Contact: Marcus Neusser Phone: +49(0)89-31884-177 TechSupportLSG.CE@bio-rad.com	SsoFast EvaGreen Supermix	EvaGreen dye and Sso7d-fusion polymerase	<ul style="list-style-type: none"> Novel Sso7d-fusion polymerase EvaGreen dye Any Real-Time PCR Platform 	On request
	iScript one step cDNA Synthesis Kit	SYBR Green Detection	<ul style="list-style-type: none"> cDNA step & amplification step in a single tube format Any Real-Time PCR Platform 	On request
	iTaq Fast SYBR Supermix with ROX	See above	<ul style="list-style-type: none"> Fast PCR Supermix with ROX Dedicated to ROX dependent Real-Time PCR Platforms 	On request
	iQ SYBR Green Supermix	See above	<ul style="list-style-type: none"> Classical SYBR Green detection kit Any Real-Time PCR Platform 	On request
	iQ Multiplex Powermix	Fluorescent Probe Detection Format	<ul style="list-style-type: none"> Quantitative detection of up to 5 target genes, single tube format Any Real-Time PCR Platform 	On request
Epicentre Biotechnologies Madison, USA www.epibio.com Contact: Shannon Krueger, Phone (800) 284-8474 shannon.krueger@epibio.com Germany/ Austria: Biozym Scientific , Hess. Oldendorf, Germany, www.biozym.com Contact: Monika Burbach Phone: +49(0)5152 9020 support@biozym.com	FailSafe GREEN Real-Time PCR System	Fluorescent dye	<ul style="list-style-type: none"> Molecular biology and gene expression One Step Optimization kit All thermocyclers 	On request
	FailSafe PROBES Real-Time PCR System	Target-specific probes	<ul style="list-style-type: none"> Molecular biology and gene expression One Step Optimization kit All thermocyclers 	On request
	TAQurate GREEN Real-Time PCR MasterMix	Fluorescent dye	<ul style="list-style-type: none"> All thermocyclers 	On request
	TAQurate PROBES Real-Time PCR MasterMix	Target-specific probes	<ul style="list-style-type: none"> All thermocyclers 	On request
	TAQxpedit GREEN Real-Time PCR MasterMix Kit	Fluorescent dye	<ul style="list-style-type: none"> Fast Kit All thermocyclers 	On request
	MasterAmp GREEN Real-Time RT-PCR kit	Fluorescent dye	<ul style="list-style-type: none"> Fast Kit All thermocyclers 	On request

Real Time PCR Kits

Company/Distributor	Name of Product	Detection method	Miscellaneous, Specialities, Generally	Price [EUR]
Takara Bio Europe / Clontech Saint-Germain-en-Laye, France www.clontech.com Contact: Toll Free Phone: Germany 0800 1825 178 UK 0808 234 8063 Switzerland 0800 563 629 Austria 0800 296 141 Europe +33-1 3904 6880 tech@clontech-europe.com	SYBR Advantage qPCR Premix	SYBR Green	<ul style="list-style-type: none"> Master mix includes SYBR Green Comes with two optional ROX formulations All common instruments 	On request
	QTag DNA Polymerase Mix	Optimized for use with most detection methods	<ul style="list-style-type: none"> Optimized for qPCR High sensitivity and wide dynamic range Flexible format Available with or without ROX reference dye All common instruments 	On request
	QTag One-Step qRT-PCR Kit	See above	<ul style="list-style-type: none"> Optimized for qPCR High sensitivity and wide dynamic range Flexible, single step, single tube format All common instruments 	On request
	QTag One-Step qRT-PCR SYBR Kit	SYBR Green	<ul style="list-style-type: none"> Optimized for qPCR High sensitivity and wide dynamic Single step, single tube format All common instruments 	On request
Fermentas St. Leon-Rot, Germany www.fermentas.com Contact: Wiebke Wetzel Phone: +49(0)6227 356790 Wiebke.Wetzel@fermentas.de	Maxima Probe qPCR Master Mix (2X)	For use with Probes; ROX as reference dye	<ul style="list-style-type: none"> Ready-to-use 2x master mix Hot start Taq DNA Polymerase dUTP included Wide linear range Most realtime cyclers: not suitable on cyclers needing a low ROX concentration 	111,- (200 appl.) 520,- (1000 appl.)
	Maxima SYBR Green qPCR Master Mix (2X)	SYBR Green detection; ROX as reference dye	<ul style="list-style-type: none"> Ready-to-use 2x master mix SYBR Green included dUTP included Wide linear range Hot start Taq DNA Polymerase Most real-time cyclers: not suitable on cyclers needing a low ROX concentration 	127,50 (200 appl.) 580,- (1000 appl.)
Finnzymes Espoo, Finland www.finnzymes.com Germany/ Austria: Biozym Scientific, Hess. Oldendorf, www.biozym.com Contact: Helmut Prechel Phone: +49 5152 9020 support@biozym.com	DyNamo Flash SYBR Green qPCR Kit	SYBR Green chemistry	<ul style="list-style-type: none"> Extremely fast protocols Enhanced sensitivity and reproducible detection dUTP and ROX included Block-based instruments 	On request
	DyNamo Flash Probe qPCR Kit	Probe-based chemistry	<ul style="list-style-type: none"> Extremely fast protocols dUTP & ROX incl. Enhanced sensitivity & reproducible detection Block-based & capillary based instruments 	On request
	DyNamo HS SYBR Green qPCR Kit	SYBR Green chemistry	<ul style="list-style-type: none"> Optimized for detection of low-copy number templates dUTP and ROX included Block-based instruments 	On request
	DyNamo Capillary SYBR Green qPCR kit	SYBR Green chemistry	<ul style="list-style-type: none"> Optimized for detection of low-copy number templates dUTP and ROX included Capillary based instruments 	On request
	DyNamo SYBR Green 2-Step qRT-PCR Kit	SYBR Green chemistry	<ul style="list-style-type: none"> Broad dynamic range Reliable results with different RNA sources Two-step system, all priming options Block-based instruments 	On request
	DyNamo Capillary SYBR Green 2-Step qRT-PCR Kit	SYBR Green chemistry	<ul style="list-style-type: none"> Broad dynamic range Reliable results with different RNA sources Two-step system, all priming options Capillary based instruments 	On request
	DyNamo Probe 2-Step qRT-PCR Kit	Probe-based Chemistry	<ul style="list-style-type: none"> Broad dynamic range Reliable results with different RNA sources 2-step syst., all priming options Block- & capillary based instrum. 	On request
Integrated DNA Technologies Coralville, IA, USA www.idtdna.com Contact: Lynette Brown, Phone: +1-319-665-7208 lbrown@idtdna.com	PrimeTime qPCR Assays	Dual-labeled probes and PCR primers	<ul style="list-style-type: none"> 100% QC on all oligos Compatible with most systems and platforms 	110,-
	PrimeTime qPCR Probes	Dual-labeled Probes	<ul style="list-style-type: none"> 100% QC on all oligos Compatible with most systems and platforms 	130,- to 435,-
Invitrogen Paisley, UK www.invitrogen.com Contact: Debra Ann Nickson, debra.nickson@invitrogen.com	EXPRESS SYBR GreenER qPCR Supermix	SYBR based detection	<ul style="list-style-type: none"> Heat-labile UDG SYBR GreenER dye Fast-activating, antibody-mediated Platinum Taq DNA polymerase Tested on a variety of Real-Time PCR instruments 	395,- (200 rxn)
	EXPRESS Two-Step SYBR GreenER	See above	<ul style="list-style-type: none"> Linearity across the broadest range SYBR GreenER dye Unique heat-labile UDG Fast-activating, antibody-mediated Platinum Taq DNA polymerase Tested on a variety of Real-Time PCR instruments 	718,- (200 rxn)
	EXPRESS qPCR Supermix	Florescent probes or primers	<ul style="list-style-type: none"> Heat-labile UDG Fast-activating, antibody-mediated Platinum Taq DNA polymerase Tested on a variety of Real-Time PCR instruments 	395,- (200 rxn)
	EXPRESS Two-Step Superscript qRT-PCR	See above	<ul style="list-style-type: none"> Heat-labile UDG Antibody-mediated Platinum Taq DNA Tested on a variety of Real-Time PCR instruments 	718,- (200 rxn)
	EXPRESS One-Step SYBR GreenER	SYBR based detection	<ul style="list-style-type: none"> Heat-labile UDG SYBR GreenER dye Antibody-mediated Platinum Taq DNA polymerase Tested on a variety of Real-Time PCR instruments 	786,- (200 rxn)
Jena Bioscience Jena, Germany www.jenabioscience.com Contact: Bürk Schäfer Phone: +49(0)3641 6285173 buerk.schaefer@jenabioscience.com	qPCR GreenMaster with UNG / ROX	qPCR Kit with EvaGreen	<ul style="list-style-type: none"> EvaGreen Fluorescent dye Including high-resolution DNA melting curve analysis Compatible with all common real-time PCR cyclers 	130,- (100 rxns) 520,- (500 rxns)
	qPCR GreenMaster with UNG	See above	<ul style="list-style-type: none"> See above 	130,- (100 rxns) 520,- (500 rxns)
	qPCR GreenMaster with ROX	See above	<ul style="list-style-type: none"> See above 	110,- (100 rxns) 440,- (500 rxns)
	qPCR GreenMaster	See above	<ul style="list-style-type: none"> See above 	110,- (100 rxns) 440,- (500 rxns)
	qPCR Green Core Kit with ROX	See above	<ul style="list-style-type: none"> See above 	90,- (100 rxns) 360,- (500 rxns)
	qPCR Green Core Kit	See above	<ul style="list-style-type: none"> See above 	90,- (100 rxns) 360,- (500 rxns)

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Jena Bioscience Contact see page 50	qPCR Master with UNG / ROX	Dual Labeled Fluorescent Probes	<ul style="list-style-type: none"> ■ Broad dynamic range ■ Exceptional sensitivity and precision ■ Compatible with all common real-time PCR cyclers 	130,- (100 rxns) 520,- (500 rxns)
	qPCR Master with UNG	See above	<ul style="list-style-type: none"> ■ Broad dynamic range ■ Exceptional sensitivity and precision ■ Optimized reaction chemistry for block-based PCR instruments 	130,- (100 rxns) 520,- (500 rxns)
	qPCR Master with ROX	See above	<ul style="list-style-type: none"> ■ Broad dynamic range ■ Exceptional sensitivity and precision ■ Optimized reaction chemistry for block-based PCR instruments that are compatible with the evaluation of the ROX reference signal 	110,- (100 rxns) 440,- (500 rxns)
	qPCR Core Kit with ROX	See above	■ See above	90,- (100 rxns) 360,- (500 rxns)
	qPCR Master	See above	<ul style="list-style-type: none"> ■ Broad dynamic range ■ Exceptional sensitivity and precision ■ Optimized reaction chemistry for block-based PCR instruments 	110,- (100 rxns) 440,- (500 rxns)
	qPCR Core Kit	See above	■ See above	90,- (100 rxns) 360,- (500 rxns)
	Dual labeled Oligos up to 33 bp, various 5' reporters and quenchers	Dual Labeled Fluorescent Probe	<ul style="list-style-type: none"> ■ Highly sensitive and specific ■ Particularly suitable for multiplex qPCR ■ All common real-time PCR cyclers 	Starting at 109,-
	ROX Reference Dye	qPCR supplement	<ul style="list-style-type: none"> ■ Normalization of non-PCR related signal variation ■ All common real-time PCR cyclers 	25,-
	Thermolabile Uracil N-Glycosylase	qPCR supplement	<ul style="list-style-type: none"> ■ Elimination of dU-containing DNA from previous reactions ■ All common real-time PCR cyclers 	100,-
qPCR Control Kit	qPCR supplement	<ul style="list-style-type: none"> ■ Quality and benchmark tests ■ Positive control ■ Internal lab standard ■ All common real-time PCR cyclers 	130,-	
Millipore Billerica, MA, USA www.millipore.com Contact: technicalservice@millipore.com	Amplifluor ID Pan-Enterovirus Kit	Labeled airpin primer	<ul style="list-style-type: none"> ■ Quantitative RT-PCR of Pan-Enterovirus RNA ■ ABI PrismLightCycler 	On request
	Amplifluor ID West Nile Virus Kit	See above	<ul style="list-style-type: none"> ■ In cell culture supernatants or patients biologic fluid samples ■ ABI PrismLightCycler 	On request
	Amplifluor ID Avian Influenza A (H5N1) Kit	See above	■ See above	On request
	Amplifluor ID Herpes Virus Type 1 (HSV-1) & Type 2 (HSV-2) Kit	-	<ul style="list-style-type: none"> ■ In cell culture supernatants or patients biologic fluid samples ■ ABI PrismLightCycler ■ Designed for users familiar with either Amplifluor or real-time PCR detection instruments 	On request
	Amplifluor SNPs HT Genotyping System FAM-JOE	See above	<ul style="list-style-type: none"> ■ One step, PCR-based, universal detection method ■ Simplifies high throughput analysis 	On request
MDS Analytical Technologies Wokingham, Berkshire, UK www.moleculardevices.com Contact: James Ford Phone +44(0)118 944 8000 infobox@moldev.com	Paradise PLUS Whole Transcript Reverse-Transcription (WT-RT) Kit	qRT-PCR	<ul style="list-style-type: none"> ■ FFPE Tissues ■ Whole transcript analysis ■ Any thermocycler 	400,- to 1500,-
	Paradise PLUS Reagent System	qRT-PCR, microarray	<ul style="list-style-type: none"> ■ FFPE Tissues ■ Laser Capture Microdissection ■ Any thermocycler 	1000,- to 2000,-
	RiboAmp PLUS RNA Amplification Kits	qRT-PCR, microarray	<ul style="list-style-type: none"> ■ Frozen Tissues ■ Laser Capture Microdissection ■ Any thermocycler 	400,- to 700,-
Nanogen Advanced Diagnostics www.nanogenad.com Contact: Davide Barberio Phone +39-348.407.83.85 dbarberio@nanogenad.com	Real time qPCR Alert kits	Taqman - MGB probes duplex real time pcr	<ul style="list-style-type: none"> ■ CE-IVD mark of the whole range of products ■ Minor groove binder probes ■ Carryover prevention system ■ Internal control reaction ■ 4 points calibration standard set ■ Abi (CE-IVD)CorbettBiorad 	On request
Promega Mannheim, Germany www.promega.com Contact: Jan Adam Phone: +49(0)621 8501-290	Plexor qPCR System	-	<ul style="list-style-type: none"> ■ Multiplex-capable ■ Only 2 primers required ■ Master mix format ■ Free design & analysis tool ■ Works on most currently available real-time instruments capable of measuring more than one fluor ■ iso-dC & iso-dG coupled to fluorescent tag at one primer & quencher 	On request
	Plexor One-Step qRT-PCR System	-	■ See above	On request
	Plexor Two-Step qRT-PCR System	-	■ See above	On request
PromoCell Heidelberg, Germany www.promokine.info Contact: Technical Support Phone: +49(0)6221 64934-0 info@promokine.info	PCR Mycoplasma Test Kit I/RT	Specific for the highly conserved 16S-RNA coding region in the mycoplasma genome	<ul style="list-style-type: none"> ■ Detects all mycoplasma species relevant for cell culture contamination ■ Convenient ready-to-use kit ■ Mycoplasma detection kits for conventional PCR available ■ Roche Light Cycler 1/2, Eppendorf Mastercycler ep realplex, Cepheid SmartCycler II, ABI Prism and Stratagene Cyclers 	225,- (25 assays)
Qiagen www.qiagen.com Contact: Nicole York, Phone: +1-240-686-7660 nicole.york@qiagen.com	QuantifastSYBR Green RT-PCR Kit	SYBR Green intercalating dye	<ul style="list-style-type: none"> ■ Time savings up to 60% ■ Rotor-Gene Q 	On request
	Quantifast Probe RT-PCR Kits	Sequence specific fluorescent probes	<ul style="list-style-type: none"> ■ Sensitive, accurate detection 60% faster ■ Rotor-Gene Q 	On request
	Quantifast Multiplex PCR Kits	See above	<ul style="list-style-type: none"> ■ Successful multiplex PCR without optimization ■ Rotor-Gene Q 	On request

Real Time PCR Kits

Company/Distributor	Name of Product	Detection method	Miscellaneous, Specialities, Generally	Price [EUR]
Qiagen Contact see page 51	Quantitect Virus Kit	See above	■ Fast protocols, high sensitivity ■ Rotor-Gene Q	On request
	Type-it™ Fast SNP Probe PCR Kit	See above	■ Greater flexibility, efficient, economical	On request
Sigma Aldrich Chemie Taufkirchen, Germany www.sigma.com Contact: Markus Veit Markus.Veit@sial.com	SYBR Green JumpStart Taq Readymix	SYBR Green	■ HotStart Taq ■ Also available without MgCl ₂ ■ Common Cyclers	On request
	JumpStart Taq Readymix	Probe based	■ HotStart Taq ■ Also available without MgCl ₂ ■ Common Cyclers	On request
	SYBR Green Quantitative RT-PCR Kit	SYBR Green	■ HotStart Taq ■ M-MLV Reverse Transcriptase ■ Common Cyclers	On request
	Quantitative RT-PCR Readymix	Probe based	■ HotStart TaqM ■ MLV Reverse Transcriptase ■ Common Cyclers	On request
Takara Bio Europe Saint-Germain-en-Laye, France www.takara-bio.eu Contact: Lonza Verviers (Distributor) Phone: +32 87 321 611 Info.europe@lonza.com	Premix Ex Taq (Perfect Real Time)	TaqMan probe	■ Convenient premix ■ Sensitive ■ Rapid ■ Versatile ■ Most of the available thermocyclers	264,40
	SYBR Premix Ex Taq (Perfect Real Time)	SYBR Green I	■ High sensitivity ■ Wide dynamic range ■ Accurate quantification ■ Most of the available thermocyclers	383,80
	SYBR Premix Ex Taq II (Perfect Real Time)	SYBR Green I	■ Improved buffer for higher specificity ■ To be used when non specific amplification is encountered ■ Extended dynamic range ■ Most of the available thermocyclers (except Cepheid Smart Cycler)	383,80
	One Step SYBR PrimeScript RT-PCR Kit II (Perfect Real Time)	SYBR Green I (also f. TaqMan pro. det.)	■ Simple and sensitive RT-PCR kit ■ Improved buffer system and enzyme premix ■ Most of the available thermocyclers	483,60
	PrimeScript RT reagent Kit (Perfect Real Time)	Intercalator dye or TaqMan probe detection method	■ Rapid synthesis of cDNA ■ For 2 steps qRT-PCR using Takara Ex Taq Premixes ■ Allows highly sensitive gene expression analysis ■ Available for any thermocycler RT reaction performed in 15 min at 37-42 °C	452,40
	CellAmp Whole Transcriptome Amplification Kit (Real Time)	Intercalator dye or fluorescent probe detection method	■ For use with up to 200 cells or 20 ng total RNA max ■ Avoid loss of material during purification process ■ Highly reproducible ■ Available for any thermocycler	595,-
	CellAmp Direct RNA Prep Kit for RT-PCR (Real Time)	See above	■ No genomic DNA contamination ■ Available for any thermocycler ■ To be used in combination with Takara PrimeScript RT-PCR kits	295,-
TIB Molbiol Berlin, Germany www.tib-molbiol.de Contact: Olfert Landt Phone: +49(0)30 787 99455 dna@tib-molbiol.de	HFE	Hybridization probes 530/640	■ 63/65/282 mutation detection ■ LightCycler instruments	950,-
	LightMix Kits Pharmacogenetics	See above	■ Typing ■ LightCycler instruments	290,-/490,-/690,-
	LightMix Kits Other Human SNP	See above	■ Typing ■ LightCycler instruments	290,-/490,-
	LightMix Kits Cancer	Hybrid. probes 640	■ Mutation search ■ Methylation ■ Quantificat. ■ LightCycler instrum.	290,-/490,-
	LightMix Kits Hematology	See above	■ Detection (quantification) ■ LightCycler instruments	290,-
	Lactose intolerance	See above	■ Mutation search ■ LightCycler instruments	290,-
	LightMix KRAS	See above	■ Mutation search ■ From tissue ■ LightCycler instruments	790,-
	MRSA	Hybridization probes 640/690	■ Detection (quantification) ■ Most kits with internal control ■ LightCycler 1,./2.0 & 480 versions	290,-/490,-
	LightMix Kits Respiratory Virus	See above	■ mecA and <i>S.aureus</i> /without IC ■ LightCycler instruments	490,-
	Norovirus	Hybridization probes 530/560/670	■ Detection (quantification) with internal control ■ LightCycler 480	490,-
	LightMix Kits Respiratory Bacteria	See above	■ Detection (quantification) ■ Most kits with internal control ■ LightCycler 1,./2.0 & 480 versions	490,-
	LightMix Kits STD	See above	■ Detection (quantification) ■ Most kits with internal control ■ LightCycler 1,./2.0 & 480 versions	290,-/490,-/690,-
	LightMix Kits Herpes virus	See above	■ Detection and typing with internal control ■ LightCycler 1,./2.0 & 480 versions	490,-/690,-
	LightMix Kits other bacteria	See above	■ Detection (quantification) ■ With internal control ■ LightCycler 1,./2.0 & 480 versions	490,-
	LightMix Kits other virus	See above	■ Detection (quantification) ■ With internal control ■ LightCycler 1,./2.0 & 480 versions	490,-/690,-
	Scrapie PRNP	Hybridization probes 610/640/670	■ Typing ■ LightCycler 1,./2.0 & 480 versions	390,-
	Quanta BioSciences Gaithersburg, MD, USA Quantabio.com Contact: Will Geist Phone: +1-800-364-2149, XT 702 will.geist@quantabio.com	PerfeCtA SYBR Green FastMix, ROX	SYBR Green Detect.	■ Free Evaluation sample ■ AB 7000, 7300, 7700, 7900, StepOne
PerfeCtA SYBR Green FastMix, Low ROX		See above	■ Free Evaluation sample ■ AB 7500, Stratagene MX series	777,- (1205 rxns)
PerfeCtA SYBR Green FastMix for iQ		See above	■ Free Evaluation sample ■ Bio-Rad iQ, MyiQ, iQ5	777,- (1250 rxns)
PerfeCtA qPCR FastMix, ROX		TaqMan Probes	■ Free Evaluation sample ■ AB 7000, 7300, 7700, 7900, StepOne	752,- (1250 rxns)
PerfeCtA qPCR FastMix, Low ROX		TaqMan Probes	■ Free Evaluation sample ■ AB 7500, Stratagene MX series	752,- (1250 rxns)