

# 2

## 2.3 Real-Time qPCR

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Real-Time quantitative PCR, or qPCR, is heralded as the gold standard for accurate, sensitive and fast quantification of nucleic acid sequences. When inspecting the scientific literature relating to qPCR, it is clear that the number of publications over the years follows the same exponential rate as the PCR reaction itself. Currently, there is no plateau phase in sight. As an experienced leader in the field of Real-Time qPCR, Eurogentec is providing you with the most complete and easy to use qPCR and qRT-PCR product line for every thermocycler, including:

- ▣ Kits and Reagents
- ▣ Controls
- ▣ Plates and Seals
- ▣ Assay Dispensing Service

We put a maximal emphasis on the quality and consistency of our products. This can only be achieved by continuously improving our production processes.

## Kits and Reagents

### Kits for every application

- ▣ Gene expression
- ▣ Genotyping
- ▣ SNP analysis
- ▣ Pathogen and load detection (viral, bacterial, fungal)
- ▣ CNV analyses
- ▣ Methylation studies
- ▣ RNAi qRT-PCR
- ▣ Splice variant detection
- ▣ Validation of NGS and MicroArray data
- ▣ Gene scanning...

### Kits in every format

Eurogentec has developed kits for Probe Assays and for SYBR® Assays. Quality HotStart enzymes combined with their optimized buffers ensure consistent, accurate and sensitive results on every qPCR platform.

#### Core Kits



- ▣ Components in separated vials
- ▣ Maximal flexibility on assay formulation
- ▣ Cost effective

#### 2x MasterMixes



- ▣ Ready-to-use mix optimised to work under a wide range of conditions
- ▣ Maximal reproducibility and ease of use
- ▣ Reduced contamination risks and pipetting errors

- ▣ **FAST MasterMixes** will let you significantly reduce your run times on FAST thermocyclers but also deliver highly sensitive, accurate and reproducible results in regular cycling conditions.
- ▣ **BLUE MasterMixes**, inert BLUE dye will allow you to visualize dispensing errors at a glance and increase your fluorescent signal.
- ▣ **5x MasterMixes (Please inquire)**
  - ❖ Compatible with robotic handling platforms
  - ❖ Ideal for low volume reactions and/or high sample volumes
  - ❖ Maximal reproducibility and easy handling
  - ❖ Optionally FAST and/or BLUE
  - ❖ Ultrapure, low DNA & Bioburden, ideal for bacterial tests

### Dispensing services



- ❖ Receive your assays pre-dispensed
- ❖ Simplify procedures and reduce workload
- ❖ Improve assay performances
- ❖ Reduce contamination risks
- ❖ Ease accreditation processes

Automate your routine assays to perfection, with full design and format flexibility.

Combine all required reagents, in any type of formulation, support and packaging, to produce your ready & easy-to-use solution.

Our dispensing service is fully scalable and can be adapted to any requirement, for all types of use.

Ask for your free project analysis or request more info at :

[dispensing@eurogentec.com](mailto:dispensing@eurogentec.com)

## Carry-over prevention

In a qPCR Assay, the slightest contaminating DNA from previous amplification (carry-over contamination) may lead to aberrant results and should be avoided. To prevent this, UNG (Uracyl N-Glycosylase) is used to cleave the contaminating amplicons before the next qPCR reaction. This cleavage may be achieved only if the amplicons contain dU's. Knowing that increasing percentage of dUTPs in the nucleotides blend has a negative effect on the performance of the *Taq*<sup>®</sup> polymerase, Eurogentec has developed three options fitting your needs:

- ▣ Kits containing a dNTP/dUTP blend with UNG
  - Direct carry-over prevention
  - Very high sensitivity of assays maintained
  
- ▣ Kits containing a dNTP/dUTP blend without UNG
  - Security of optional UNG use in case of contamination
  - Cost efficient
  
- ▣ Kits containing only dNTP, no dUTP, no UNG
  - Better assay efficiency
  - Most sensitive results with earlier C<sub>q</sub> as *Taq*<sup>®</sup> polymerase prefers to incorporate naturally occurring dNTPs

Note : Custom kits containing modified dTTP/dUTP blend ratios can be produced, up to 100 % dUTP. In case of GC-rich sequences, only a few A's are present in the complementary strand and therefore only a few dUTPs are incorporated. Having 100 % dUTP mix ensures that sufficient dUTPs are incorporated by the *Taq*<sup>®</sup> polymerase to promote the contaminating DNA degradation by UNG.

## High performance enzymes

All Eurogentec kits include the hotstart polymerase HotGoldStar or MeteorTaq that avoids non-specific priming and formation of primer dimers during the reaction set-up. In combination with their optimized buffer, these enzymes give the maximal sensitivity and reproducibility over a broad dynamic range.

The one step qRT-PCR kits also contain:

- ▣ EuroScript reverse transcriptase, which gives high yields of full-length cDNA transcripts.
- ▣ RNase Inhibitor, which prevents RNA degradation during the reverse transcription reaction.
- ▣ High pure oligo d(T) primers and random nonamers, to detect very low copy transcripts.

Note : ➤ HotStart Activation is required

➤ Shows no activity without an activation step at 95 °C

## Custom Mixes

Eurogentec offers you the possibility to produce your own, validated qPCR Mixes.

- ▣ Your custom validated formulation suited to your assay
- ▣ In a unique high quality batch
- ▣ In your preferred format and packaging
- ▣ Optional consignment and scheduled deliveries
- ▣ Use Eurogentec Core Kit or reagents to optimize the formulation of your assay

Note : The minimal batch volume is 200 ml. We guarantee 1 and 2 years of stability for SYBR<sup>®</sup> and Probe MasterMixes, respectively.

## Quality Control

The qPCR and qRT-PCR kits are validated on all Real-Time thermocyclers, in SYBR<sup>®</sup> Green I or probe applications. Every batch is QCed against two reference batches according to stringent documented specifications.

Your cycler	see Table
ABI Prism <sup>®</sup> 5700	1
ABI Prism <sup>®</sup> 7000	1
ABI Prism <sup>®</sup> 7300	1
ABI Prism <sup>®</sup> 7500 & FAST 7500	2
ABI Prism <sup>®</sup> 7700	1
ABI Prism <sup>®</sup> 7900 & FAST 7900	1
ABI Step One <sup>®</sup> Plus	1
CFX384	3
CFX96	3
Chromo 4	3
DNA Engine Opticon <sup>®</sup> 1 & 2	3
iCycler IQ <sup>®</sup>	4
iQ <sup>™</sup> 5	4
LC480	3
Mastercycler <sup>®</sup> ep realplex I & II	3
MiniOpticon	3
Mx3000P <sup>®</sup>	2 & 3
Mx3005P <sup>®</sup>	2 & 3
Mx4000 <sup>®</sup>	2 & 3
My iQ	4
Quantica <sup>®</sup>	3
Rotor-Gene <sup>®</sup> 2000/3000/6000/Q	3
SmartCycler <sup>®</sup> 1 & 2	3

Table 1 - Kits with ROX passive reference

ABI Prism® 5700 • ABI Prism® 7000 • ABI Prism® 7300 • ABI Prism® 7700 • ABI Prism® 7900 & FAST 7900 • ABI Step One • ABI Step One Plus

Product name	# RXNs per single kit (25 µl)**	Reference			Format	Full carryover (dUTP + UNG)	Optional carryover (dUTP, no UNG*)	Maximal sensitivity (dTTP only)	FAST compatible	Corresponding sample
		Single kit	5-pack	10-pack						
<b>SYBR® Assays</b>										
MESA GREEN qPCR MasterMix Plus for SYBR® Assay	7.5 ml	600	RT-SY2X-03+WOU	05-SY2X-03+WOU	10-SY2X-03+WOU	MasterMix		✓		RT-SY2X-005+WOU
	15 ml	1200	RT-SY2X-06+WOU	05-SY2X-06+WOU	10-SY2X-06+WOU	MasterMix		✓		RT-SY2X-005+WOU
	50 ml	4000	RT-SY2X-20+WOU	05-SY2X-20+WOU	10-SY2X-20+WOU	MasterMix		✓		RT-SY2X-005+WOU
MESA GREEN qPCR MasterMix Plus for SYBR® Assay dTTP 7.5 ml		600	RT-SY2X-03+WOUN	05-SY2X-03+WOUN	10-SY2X-03+WOUN	MasterMix			✓	RT-SY2X-005+WOUN
MESA BLUE qPCR MasterMix Plus for SYBR® Assay 7.5 ml		600	RT-SY2X-03+WOUB	05-SY2X-03+WOUB	10-SY2X-03+WOUB	MasterMix		✓		RT-SY2X-005+WOUB
MESA FAST qPCR MasterMix Plus for SYBR® Assay 7.5 ml		600	RT-SY2X-03+WOUF	05-SY2X-03+WOUF	10-SY2X-03+WOUF	MasterMix		✓		RT-SY2X-005+WOUF
qPCR Core kit for SYBR® Green I		1000	RT-SN10-05	05-SN10-05	10-SN10-05	Core Kit		✓		RT-SN2X-005+ (MasterMix)
qPCR Core kit for SYBR® Green I dTTP		1000	RT-SN10-05NU	05-SN10-05NU	10-SN10-05NU	Core Kit			✓	RT-SN2X-005+ (MMx with dUTP/UNG)
qPCR Core kit for SYBR® Green I only dUTP		1000	RT-SN10-05OU	05-SN10-05OU	10-SN10-05OU	Core Kit		✓		RT-SN2X-005+ (MMx with dUTP/UNG)
<b>qRT-PCR SYBR® Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step MESA GREEN qRT-PCR MasterMix for SYBR® Assay 7.5 ml		600	RT-SYRT-032X	05-SYRT-032X	10-SYRT-032X	MasterMix				RT-SYRT-0052X
<b>Probe Assays</b>										
qPCR MasterMix (5 x 1.5 ml)		600	RT-QP2X-03	05-QP2X-03	10-QP2X-03	MasterMix	✓			RT-QP2X-005+
qPCR MasterMix Plus	7.5 ml	600	RT-QP2X-03-075+	05-QP2X-03-075+	10-QP2X-03-075+	MasterMix	✓			RT-QP2X-005+
	15 ml	1200	RT-QP2X-03-15+	05-QP2X-03-15+	10-QP2X-03-15+	MasterMix	✓			RT-QP2X-005+
	50 ml	4000	RT-QP2X-03-50+	05-QP2X-03-50+	10-QP2X-03-50+	MasterMix	✓			RT-QP2X-005+
qPCR MasterMix Plus w/o UNG 7.5 ml		600	RT-QP2X-03WOU+	05-QP2X-03WOU+	10-QP2X-03WOU+	MasterMix		✓		RT-QP2X-005+WOU
qPCR MasterMix Plus dTTP 7.5 ml		600	RT-QP2X-03+WOUN	05-QP2X-03+WOUN	10-QP2X-03+WOUN	MasterMix			✓	RT-QP2X-005+WOUN
FAST qPCR MasterMix Plus 7.5 ml		600	RT-QP2X-03+F	05-QP2X-03+F	10-QP2X-03+F	MasterMix	✓			RT-QP2X-005+F
FAST qPCR MasterMix Plus dTTP 7.5 ml		600	RT-QP2X-03+WOUNF	05-QP2X-03+WOUNF	10-QP2X-03+WOUNF	MasterMix			✓	RT-QP2X-005+WOUNF
FAST BLUE qPCR MasterMix Plus 7.5 ml		600	RT-QP2X-03+FB	05-QP2X-03+FB	10-QP2X-03+FB	MasterMix	✓			RT-QP2X-005+FB
FAST BLUE qPCR MasterMix Plus dTTP 7.5 ml		600	RT-QP2X-03+WOUNFB	05-QP2X-03+WOUNFB	10-QP2X-03+WOUNFB	MasterMix			✓	RT-QP2X-005+WOUNFB
qPCR MasterMix Plus QGS 7.5 ml		600	RT-QP2X-03+QGS	05-QP2X-03+QGS	10-QP2X-03+QGS	MasterMix	✓			RT-QP2X-005+QGS
qPCR Core kit		1000	RT-QP73-05	05-QP73-05	10-QP73-05	Core Kit		✓		RT-QP2X-005+ (MasterMix)
qPCR Core kit dTTP		1000	RT-QP10-05NU	05-QP10-05NU	10-QP10-05NU	Core Kit			✓	RT-QP2X-005+ (MMx with dUTP/UNG)
qPCR Core kit only dUTP		1000	RT-QP10-05OU	05-QP10-05OU	10-QP10-05OU	Core Kit		✓		RT-QP2X-005+ (MMx with dUTP/UNG)
<b>qRT-PCR Probe Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step qRT-PCR MasterMix 7.5 ml		600	RT-QPRT-032X	05-QPRT-032X	10-QPRT-032X	MasterMix			✓	RT-QPRT-0052X

\* Combine with UNG RT-0610-03 for carryover prevention. Add UNG to the buffer bottle before first use.

\*\* #RXNs is 5 and 10 times higher than the mentioned amount for 5 and 10-pack respectively.

Note : Easily find the best suited kit for your qPCR platform and application. Use our qPCR selector : [www.eurogentec.com/qpcr-selector.html](http://www.eurogentec.com/qpcr-selector.html)

Table 2 - Kits with Low ROX passive reference

ABI Prism® 7500 &amp; FAST 7500 • Mx3000P® • Mx3005P® • Mx4000®

Product name	# RXNs per single kit (25 µl)**	Reference			Format	Full carryover (dUTP + UNG)	Optional carryover (dUTP, no UNG*)	Maximal sensitivity (dTTP only)	FAST compatible	Corresponding sample
		Single kit	5-pack	10-pack						
<b>SYBR® Assays</b>										
MESA GREEN qPCR MasterMix Plus for SYBR® Assay Low ROX w/o UNG 7.5 ml	600	RT-SY2X-03+WOULR	05-SY2X-03+WOULR	10-SY2X-03+WOULR	MasterMix		✓			RT-SY2X-005+WOULR
15 ml	1200	RT-SY2X-06+WOULR	05-SY2X-06+WOULR	10-SY2X-06+WOULR	MasterMix		✓			RT-SY2X-005+WOULR
50 ml	4000	RT-SY2X-20+WOULR	05-SY2X-20+WOULR	10-SY2X-20+WOULR	MasterMix		✓			RT-SY2X-005+WOULR
MESA BLUE qPCR MasterMix Plus for SYBR® Assay Low ROX w/o UNG 7.5 ml	600	RT-SY2X-03+WOULRB	05-SY2X-03+WOULRB	10-SY2X-03+WOULRB	MasterMix		✓		✓	RT-SY2X-005+WOULRB
MESA FAST qPCR MasterMix Plus for SYBR® Assay Low ROX w/o UNG 7.5 ml	600	RT-SY2X-03+WOULRF	05-SY2X-03+WOULRF	10-SY2X-03+WOULRF	MasterMix		✓		✓	RT-SY2X-005+WOULRF
<b>qRT-PCR SYBR® Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
For one-step assays, use the No ROX kit (see table 3) combined with ROX additive (RT-PARE-03)										
<b>Probe Assays</b>										
FAST qPCR MasterMix Plus Low ROX 7.5 ml	600	RT-QP2X-03+LRF	05-QP2X-03+LRF	10-QP2X-03+LRF	MasterMix	✓			✓	RT-QP2X-005+LRF
qPCR MasterMix Plus low ROX w/o UNG 7.5 ml	600	RT-QP2X-03+WOULR	05-QP2X-03+WOULR	10-QP2X-03+WOULR	MasterMix		✓			RT-QP2X-005+WOULR
FAST qPCR MasterMix Plus Low ROX w/o UNG 7.5 ml	600	RT-QP2X-03+WOULRF	05-QP2X-03+WOULRF	10-QP2X-03+WOULRF	MasterMix		✓		✓	RT-QP2X-005+WOULRF
FAST BLUE qPCR MasterMix Plus Low ROX 7.5 ml	600	RT-QP2X-03+WOULRFB	05-QP2X-03+WOULRFB	10-QP2X-03+WOULRFB	MasterMix		✓		✓	RT-QP2X-005WOULRFB
<b>qRT-PCR Probe Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step qRT-PCR MasterMix Low ROX 7.5 ml	600	RT-QPRT-032XLR	05-QPRT-032XLR	10-QPRT-032XLR	MasterMix			✓		RT-QPRT-0052XNR + ROX (RT-PARE-03)

\* Combine with UNG RT-0610-03 for carryover prevention. Add UNG to the buffer bottle before first use.

\*\* #RXNs is 5 and 10 times higher than the mentioned amount for 5 and 10-pack respectively.

**Note :** Easily find the best suited kit for your qPCR platform and application. Use our qPCR selector : [www.eurogentec.com/qpcr-selector.html](http://www.eurogentec.com/qpcr-selector.html)

Table 3 - Kits without ROX passive reference

DNA Engine Opticon® 1 & 2 • Chromo 4 • MiniOpticon • CFX96 & CFX384 • Rotor-Gene® 2000/3000/6000/Q • Quantica® • Mx4000® • Mx3000P® • Mx3005P® • SmartCycler® 1 & 2 • LC480  
Mastercycler® ep realplex I & II

Product name	# RXNs per single kit (25 µl)**	Reference			Format	Full carryover (dUTP + UNG)	Optional carryover (dUTP, no UNG*)	Maximal sensitivity (dTTP only)	FAST compatible	Corresponding sample
		Single kit	5-pack	10-pack						
<b>SYBR® Assays</b>										
MESA GREEN qPCR MasterMix Plus for SYBR® Assay No ROX 7.5 ml	600	RT-SY2X-03+NRWOU	05-SY2X-03+NRWOU	10-SY2X-03+NRWOU	MasterMix		✓			RT-SY2X-005+NRWOU
15 ml	1200	RT-SY2X-06+NRWOU	05-SY2X-06+NRWOU	10-SY2X-06+NRWOU	MasterMix		✓			RT-SY2X-005+NRWOU
50 ml	4000	RT-SY2X-20+NRWOU	05-SY2X-20+NRWOU	10-SY2X-20+NRWOU	MasterMix		✓			RT-SY2X-005+NRWOU
MESA BLUE qPCR MasterMix Plus for SYBR® Assay No ROX 7.5 ml	600	RT-SY2X-03+NRWOU	05-SY2X-03+NRWOU	10-SY2X-03+NRWOU	MasterMix		✓		✓	RT-SY2X-005+NRWOU
MESA FAST qPCR MasterMix Plus dTTP for SYBR® Assay No ROX 7.5 ml	600	RT-SY2X-03+NRWOUNF	05-SY2X-03+NRWOUNF	10-SY2X-03+NRWOUNF	MasterMix			✓	✓	RT-SY2X-005NRWOUNF
MESA FAST qPCR MasterMix Plus for SYBR® Assay No ROX 7.5 ml	600	RT-SY2X-03+NRWOUF	05-SY2X-03+NRWOUF	10-SY2X-03+NRWOUF	MasterMix		✓		✓	RT-SY2X-005+NRWOUF
qPCR Core kit for SYBR® Green I No ROX	1000	RT-SN10-05NR	05-SN10-05NR	10-SN10-05NR	Core Kit		✓			RT-SN2X-005+NR (MasterMix)
<b>qRT-PCR SYBR® Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step MESA GREEN qRT-PCR MasterMix for SYBR® Assay No ROX 7.5 ml	600	RT-SYRT-032XNR	05-SYRT-032XNR	10-SYRT-032XNR	MasterMix					RT-SYRT-0052XNR
<b>Probe Assays</b>										
FAST qPCR MasterMix Plus No ROX 7.5 ml	600	RT-QP2X-03+NR	05-QP2X-03+NR	10-QP2X-03+NR	MasterMix	✓			✓	RT-QP2X-005+NR
FAST BLUE qPCR MasterMix Plus No ROX 7.5 ml	600	RT-QP2X-03+NRFB	05-QP2X-03+NRFB	10-QP2X-03+NRFB	MasterMix	✓			✓	RT-QP2X-005+NRFB
FAST qPCR MasterMix Plus dTTP No ROX 7.5 ml	600	RT-QP2X-03+NRWOUNF	05-QP2X-03+NRWOUNF	10-QP2X-03+NRWOUNF	MasterMix			✓	✓	RT-QP2X-005NRWOUNF
qPCR MasterMix No ROX 7.5 ml	600	RT-QP2X-03NR	05-QP2X-03NR	10-QP2X-03NR	MasterMix	✓				RT-QP2X-005+NR
qPCR Core kit No ROX	1000	RT-QP73-05NR	05-QP73-05NR	10-QP73-05NR	Core Kit		✓			RT-QP2X-005+NR (MasterMix)
<b>qRT-PCR Probe Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step qRT-PCR MasterMix No ROX 7.5 ml	600	RT-QPRT-032XNR	05-QPRT-032XNR	10-QPRT-032XNR	MasterMix			✓		RT-QPRT-0052XNR

\* Combine with UNG RT-0610-03 for carryover prevention. Add UNG to the buffer bottle before first use.

\*\* #RXNs is 5 and 10 times higher than the mentioned amount for 5 and 10-pack respectively.

Note : Easily find the best suited kit for your qPCR platform and application. Use our qPCR selector : [www.eurogentec.com/qpcr-selector.html](http://www.eurogentec.com/qpcr-selector.html)

Table 4 - Kits without ROX passive reference / with fluorescein  
iCycler iQ® • My iQ • iQ™5

Product name	# RXNs per single kit (25 µl)**	Reference			Format	Full carryover (dUTP + UNG)	Optional carryover (dUTP, no UNG*)	Maximal sensitivity (dTTP only)	FAST compatible	Corresponding sample
		Single kit	5-pack	10-pack						
<b>SYBR® Assays with fluorescein additive</b>										
MESA GREEN qPCR MasterMix Plus for SYBR® Assay w/ fluorescein 7.5 ml	600	RT-SY2X-03+WOUFL	05-SY2X-03+WOUFL	10-SY2X-03+WOUFL	MasterMix		✓			RT-SY2X-005+WOUFL
15 ml	1200	RT-SY2X-06+WOUFL	05-SY2X-06+WOUFL	10-SY2X-06+WOUFL	MasterMix		✓			RT-SY2X-005+WOUFL
50 ml	4000	RT-SY2X-20+WOUFL	05-SY2X-20+WOUFL	10-SY2X-20+WOUFL	MasterMix		✓			RT-SY2X-005+WOUFL
MESA BLUE qPCR MasterMix Plus for SYBR® Assay w/ fluorescein 7.5 ml	600	RT-SY2X-03+WOUFLB	05-SY2X-03+WOUFLB	10-SY2X-03+WOUFLB	MasterMix		✓		✓	RT-SY2X-005+WOUFLB
qPCR MasterMix Plus for SYBR® green I with fluorescein 7.5 ml	600	RT-SN2X-03+NRFL	05-SN2X-03+NRFL	10-SN2X-03+NRFL	MasterMix	✓				RT-SN2X-005+NR + Fluorescein***
<b>qRT-PCR SYBR® Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step MESA GREEN qRT-PCR MasterMix for SYBR® Assay No ROX 7.5 ml***	600	RT-SYRT-032XNR	05-SYRT-032XNR	10-SYRT-032XNR	MasterMix			✓	✓	RT-SYRT-0052XNR
<b>Probe Assays</b>										
FAST qPCR MasterMix Plus No ROX 7.5 ml	600	RT-QP2X-03+NRFB	05-QP2X-03+NRFB	10-QP2X-03+NRFB	MasterMix	✓			✓	RT-QP2X-005+NRFB
FAST BLUE qPCR MasterMix Plus No ROX 7.5 ml	600	RT-QP2X-03+NRFB	05-QP2X-03+NRFB	10-QP2X-03+NRFB	MasterMix	✓			✓	RT-QP2X-005+NRFB
FAST qPCR MasterMix Plus dTTP No ROX 7.5 ml	600	RT-QP2X-03+NRWOUNF	05-QP2X-03+NRWOUNF	10-QP2X-03+NRWOUNF	MasterMix			✓	✓	RT-QP2X-005NRWOUNF
qPCR MasterMix No ROX 7.5 ml	600	RT-QP2X-03NR	05-QP2X-03NR	10-QP2X-03NR	MasterMix	✓				RT-QP2X-005+NR
qPCR Core kit No ROX**	1000	RT-QP73-05NR	05-QP73-05NR	10-QP73-05NR	Core Kit		✓			RT-QP2X-005+NR (MasterMix)
<b>qRT-PCR Probe Assays</b> All above kits may be combined with our reverse transcriptase core kit RT-RTCK-03 for optimal 2-step assays										
One step qRT-PCR MasterMix No ROX 7.5 ml	600	RT-QPRT-032XNR	05-QPRT-032XNR	10-QPRT-032XNR	MasterMix					RT-QPRT-0052XNR

\* Combine with UNG RT-0610-03 for carryover prevention. Add UNG to the buffer bottle before first use.

\*\* #RXNs is 5 and 10 times higher than the mentioned amount for 5 and 10-pack respectively.

\*\*\* Combine with fluorescein additive (RT-FLUO-ADD)

**Note :** Easily find the best suited kit for your qPCR platform and application. Use our qPCR selection : [www.eurogentec.com/qpcr.selector.html](http://www.eurogentec.com/qpcr.selector.html)

## qPCR Miscellaneous

### Uracil-N-glycosylase (UNG) for Carry-over prevention

- 1000 U/ml recombinant UNG
- Uracil-N-glycosylase hydrolyzes the release of free uracil from uracil-containing DNA. UNG efficiently hydrolyzes single stranded or double stranded DNA, but not oligomers (6 or less bases).
- One unit is defined as the amount of enzyme that catalyzes the release of 60 pmol of uracil per minute from double stranded, uracil containing DNA.
- Uracil-N-glycosylase can be combined with each dUTP-containing qPCR Core kit and qPCR MasterMix available from Eurogentec.
- Simply add UNG to the MasterMix before the first use. The kit performance and stability are not affected by the addition of UNG.

#### Uracil-N-glycosylase

#RXN	Volume/RXN	Reference
600 reactions (300 U)	25 µl	RT-0610-03
3000 reactions (1500 U)	25 µl	RT-0610-15

### Universal RT kit for qPCR

The universal Reverse Transcriptase Core kit can be combined with each qPCR Core kit or qPCR MasterMix, available from Eurogentec.

As the RT buffer and the PCR buffer are harmonized, optimal results will be obtained with this combination.



- EuroScript RT
- RNase Inhibitor
- 10x reaction buffer
- 25 mM MgCl<sub>2</sub>
- dNTP mix
- oligo d(T) primer
- random nonamers
- RNase free water

#### Reverse Transcriptase Core kit

#RXN	Volume/RXN	Reference
300 reactions	10 µl	RT-RTCK-03
500 reactions	10 µl	RT-RTCK-05

### Fluorescein additive

- 1 mM fluorescein in DMSO

#### Fluorescein additive

Volume	Reference
1 ml	RT-FLUO-ADD

Alternatively any of our No ROX kit described can be used in combination with a separate tube of ROX passive reference when performing a SYBR® Assay on a iCycler iQ®, My iQ and iQ™5.

### ROX passive reference

- 300 µl of ROX passive reference

#### ROX passive reference

Volume	Reference
300 µl	RT-PARE-03

### Real-Time qPCR Probes



- From 15 to 40 bases
- From 10 nmol to >10 µmol
- Various combinations of Fluorophores and Quenchers
- RP-HPLC or Dual HPLC purifications
- MALDI-TOF MS and Analytical HPLC

See page 51

# Controls

## Universal Exogenous qPCR Positive Control (IPC)

Real-Time PCR assays are prone to inhibition by various substances found in many samples (clinical, soil, plant...). Carryover of reagents used for the isolation of nucleic acids can also inhibit amplification reactions. Other causes of false-negative results include target nucleic acid degradation, sample processing errors and thermocycler malfunction. Eurogentec's Universal Exogenous qPCR positive Control provides an accurate way to assess the integrity of all the steps in a nucleic acid amplification assay.

- ▣ Distinguish true target negatives from false negatives
- ▣ Monitor loss or degradation of your target during extraction
- ▣ Assess the quality of your nucleic acids extracts

### Turn uncertainty into accuracy

Universal Exogenous qPCR Positive Control (IPC)		
Product	Reference	#RXNs (50µl)
Universal Exogenous qPCR Positive Control, YY-TAMRA	RT-IPCY-T02	200
Universal Exogenous qPCR Positive Control, YY-BHQ-1®	RT-IPCY-T10	1000
Universal Exogenous qPCR Positive Control, YY-BHQ-1®	RT-IPCY-B02	200
Universal Exogenous qPCR Positive Control, YY-BHQ-1®	RT-IPCY-B10	1000

Note: YY is a VIC® equivalent.

### Specific

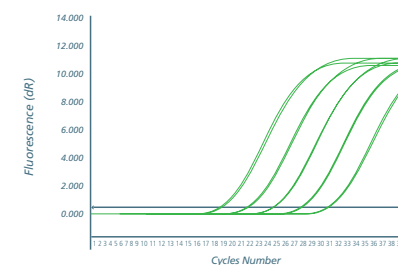
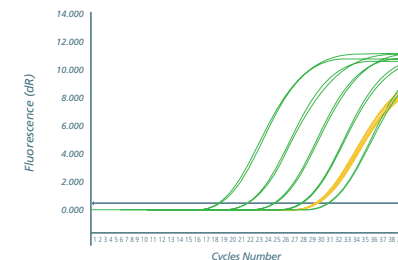
- ▣ Does not interfere with target amplification
- ▣ Avoid amplification of endogenous genes

### Sensitive

- ▣ Compatible with low copy templates
- ▣ Available with dark quencher (BHQ®) for maximal signal-to-noise ratio

### Designed for multiplex assays

- ▣ Detected on the Yakima Yellow®/VIC®/JOE channel available on all thermocyclers
- ▣ Validated in duplex assays with the target in the FAM channel



Amplification		Results Interpretation
Target	IPC	
+	+	Target Positive
-	+	Target Negative
-	-	False Negative ! Reject Result !

Result interpretation of a diagnostic test performed in the presence of the Universal Exogenous qPCR Positive Control. A negative target and IPC amplification suggests the presence of inhibitors, a wrong PCR set-up, a defective mix or an incorrect thermal cycling protocol.

High quality result achieved in 42' with FAST qPCR MasterMix Low ROX on an ABI Prism® 7500 FAST cyclers using a ten times serial dilution of 18S cDNA. (A) Dilution series of the 18S cDNA (green lines; detected in the FAM channel) performed in multiplex with the Universal Exogenous qPCR Positive Control (yellow lines; YY-BHQ-1® version, detected in the VIC®/JOE channel). (B) Dilution series of the 18S cDNA (detected in the FAM channel) performed in singleplex, without Universal Exogenous qPCR Positive Control.

The results clearly illustrate the lack of significant impact of the Positive Control amplification on the sensitivity and efficiency of the specific target amplification.

## Housekeeping internal controls

### qPCR validated Control kits

Each set has been functionally validated and optimised to a PCR efficiency of 95-100 %, when combined with Eurogentec qRT-PCR or qPCR MasterMixes and Core kits (Figure 1).

All our qPCR controls have been designed to work with cDNA. Moreover some of them also work with gDNA.

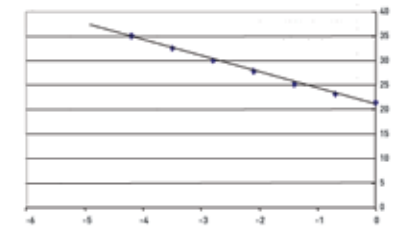
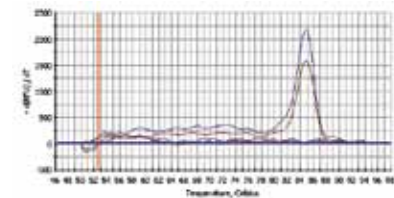
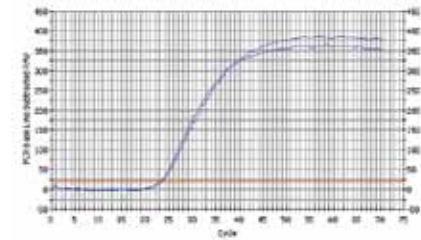


Table 1: Relative expression levels of human housekeeping genes

Target Gene	#RXN	Relative expression level	Probe	cDNA	gDNA	Organism	Amplicon length	Reference
18S rRNA	250	Very high	FAM-TAMRA Yakima Yellow®-Eclipse® Dark Quencher	✓	✓	H, Ra, M, Rb	121 bp	RT-CKFT-18S RT-CKYD-18S
28S rRNA	250	Very high	Yakima Yellow®-Eclipse® Dark Quencher	✓	✓	H, M	87 bp	RT-CKYD-28S
β-actin	250	High	Yakima Yellow®-Eclipse® Dark Quencher	✓	✓	H	91 bp	RT-CKYD-ACTB
GAPDH	250	High	Yakima Yellow®-Eclipse® Dark Quencher	✓		H	86 bp	RT-CKYD-GAPD
Ubiquitin C	250	High	Yakima Yellow®-Eclipse® Dark Quencher	✓	✓	H	76 bp	RT-CKYD-UBC
β-2-microglobulin	250	High	Yakima Yellow®-Eclipse® Dark Quencher	✓	✓	H	112 bp	RT-CKYD-B2M
Phospholipase A2	250	Medium	Yakima Yellow®-Eclipse® Dark Quencher	✓		H	93 bp	RT-CKYD-YWHAZ
HMBS	250	Medium	Yakima Yellow®-Eclipse® Dark Quencher	✓		H	119 bp	RT-CKYD-HMBS
RPL13a	250	Medium	Yakima Yellow®-Eclipse® Dark Quencher	✓	✓	H	92 bp	RT-CKYD-RPL13A
SDHA	250	Medium	Yakima Yellow®-Eclipse® Dark Quencher	✓		H	118 bp	RT-CKYD-SDHA
HPRT1	250	Low	Yakima Yellow®-Eclipse® Dark Quencher	✓		H	100 bp	RT-CKYD-HPRT1
TBP	250	Low	Yakima Yellow®-Eclipse® Dark Quencher	✓		H	145 bp	RT-CKYD-TBP

H: Human • RA: Rat • M: Mouse • Rb: Rabbit

Figure 1: Amplification plot, standard curve and melt curve of human β-actin control.

# Plates and seals

## More accurate and reproducible results!

- Our virgin optical quality polypropylene blend is optimised for qPCR and causes **no background fluorescence**.
- Extreme uniformity of wall thickness: thin wall at the bottom for **optimal heat transfer**, thicker wall at the top to **minimize evaporation**.
- The plates are perfectly flat, thin-walled and rigid, but still flexible and show **extreme uniformity**. Avoid edge artefacts.
- With skirted plates **Avoid robotic handling problems** due to plate warping.
- Extensive visual and physical quality controls will ensure the **highest consistency in quality** of the products.

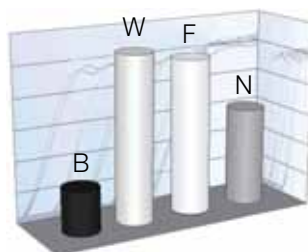


## Increased signal intensity!

- Using white plates can significantly increase signal-to-noise ratio when compared to natural plates. Thus, lower levels of fluorescence are detectable.

Although, most customers still prefer to use transparent products enabling them to view the content of the tube during the handling process. Our frosted products allow a view of contents and a high signal-to-noise ratio. Frosted products are therefore the most convenient choice for qPCR application.

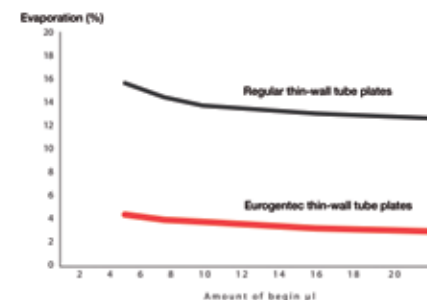
- Our optical seals do not interfere with the signal, contrary to many other brands.



Comparison of Real-Time signals when using black (B), white (W), frosted (F) or natural (N) plates.

## Have confidence when working with small volumes!

- The antistatic properties of our plastics minimize reagents adsorption to the tube walls, thus leading to **higher yields** and allowing the use of **small reaction volumes**.
- New super-tight closure and sealing properties reduce evaporation, leading to **more reproducible results**.



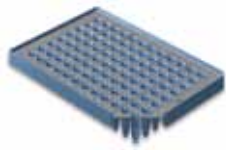
## High purity, DNA(se), RNA(se), pyrogen-free!

- Medical grade material and production processes **ensure DNA, RNA, DNase, RNase and pyrogen free** products.

Our 96-well plates are available for all thermocycler and can be combined with either optical flat or semi-domed 8-caps strips as well as with qPCR optical seals. All non-skirted plates can be easily cut into 16, 24, 32 or 48-well pieces.

### qPCR 96-well plates

For ABI Prism® SDS 7000, 7300, 7700 and 7500/7900 Regular block

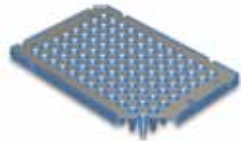


- ❖ High profile
- ❖ Thin-walled
- ❖ Sub-skirted
- ❖ Optical quality
- ❖ Frosted or white

### qPCR 96-well plates

Description	Reference	Quantity
Frosted plates	RT-PL96-AB	5 x 5 plates
Frosted plates, 200 bundle pack	RT-PL96-AB-P200	200 plates + seals
Frosted plates, 500 bundle pack	RT-PL96-AB-P500	500 plates + seals
White plates	RT-PL96-ABW	5 x 5 plates
White plates, 200 bundle pack	RT-PL96-ABW-P200	200 plates + seals
White plates, 500 bundle pack	RT-PL96-ABW-P500	500 plates + seals

For ABI Prism® SDS 7500/7900 Fast block and StepOne Plus

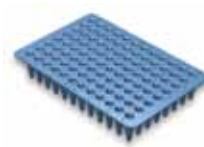


- ❖ Low profile
- ❖ Thin-walled
- ❖ Sub-skirted
- ❖ Optical quality
- ❖ Frosted or white

### qPCR 96-well plates

Description	Reference	Quantity
Frosted plates	RT-PL96-AF	5 x 5 plates
Frosted plates, 200 bundle pack	RT-PL96-AF-P200	200 plates + seals
Frosted plates, 500 bundle pack	RT-PL96-AF-P500	500 plates + seals
White plates	RT-PL96-AFW	5 x 5 plates
White plates, 200 bundle pack	RT-PL96-AFW-P200	200 plates + seals
White plates, 500 bundle pack	RT-PL96-AFW-P500	500 plates + seals

For iCycler iQ®, iQ5, MyiQ, Mx4000®, Mx3000P®, Mx3005P® and MasterCycler® ep realplex



- ❖ High profile
- ❖ Thin-walled
- ❖ Non-skirted
- ❖ Natural or white
- ❖ Easy to cut into 16, 24, 32, 48-well pieces

Also compatible with most regular 96-well ABI Real-Time thermocyclers

### qPCR 96-well plates

Description	Reference	Quantity
Natural plates	RT-PL96-MQ	5 x 5 plates
Natural plates, 200 bundle pack	RT-PL96-MQ-P200	200 plates + seals
Natural plates, 500 bundle pack	RT-PL96-MQ-P500	500 plates + seals
White plates	RT-PL96-MQW	5 x 5 plates
White plates, 200 bundle pack	RT-PL96-MQW-P200	200 plates + seals
White plates, 500 bundle pack	RT-PL96-MQW-P500	500 plates + seals

For DNA Engine Opticon® 1 and 2, MiniOpticon, Chromo4, ABI StepOne and Quantica®

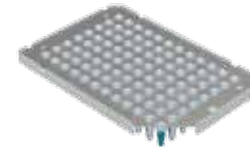


- ❖ Low profile
- ❖ Thin-walled
- ❖ Non-skirted
- ❖ Frosted or white
- ❖ Easy to cut into 16, 24, 32, 48-well pieces

### qPCR 96-well plates

Description	Reference	Quantity
Frosted plates	RT-PL96-OP	5 x 5 plates
Frosted plates, 200 bundle pack	RT-PL96-OP-P200	200 plates + seals
Frosted plates, 500 bundle pack	RT-PL96-OP-P500	500 plates + seals
White plates	RT-PL96-OPW	5 x 5 plates
White plates, 200 bundle pack	RT-PL96-OPW-P200	200 plates + seals
White plates, 500 bundle pack	RT-PL96-OPW-P500	500 plates + seals

For LC480



- ❖ Low profile
- ❖ Thin-walled
- ❖ Semi-skirted
- ❖ White

It is necessary to use our qPCR optical caps (flat 8-cap strips) or seals, to seal our plates

### qPCR 96-well plates

Description	Reference	Quantity
White plates	RT-PL96-LC480	5 x 5 plates
White plates, 200 bundle pack	RT-PL96-LC480-P200	200 plates + seals
White plates, 500 bundle pack	RT-PL96-LC480-P500	500 plates + seals

### qPCR 384-well plates



Our skirted 384-well plate types perfectly fit to Roche, ABI, Bio-Rad and Eppendorf qPCR platforms, as well as many regular PCR cyclers. The plates are fully optimized for robotic applications used for high-throughput, low

volume processing. The plates are perfectly suited for diagnostic & clinical procedures. Each plate is laser-marked with a unique code.

- Perfect fit to Roche, ABI, Bio-Rad and Eppendorf systems
- Fully skirted, low profile, white plate
- Low evaporation, very robust, due to clever design
- Extreme Uniform wells lead to reproducible results
- Robotic friendly, easily stackable and flat
- High S/N Ratio

### qPCR 384-well plates

Description	Reference	Quantity
For Roche LC480	RT-PL384-LCW	8 x 5 plates
For ABI, Bio-Rad & Eppendorf systems	RT-PL384-ABW	8 x 5 plates

### qPCR optical caps and seals



The extremely clear glass-grade area of the cap ensures very good transmission of the fluorescence and equals the performance properties of optical seals. When combined with our qPCR plates they seal better than other brands, thus less evaporation.

Our adhesive optical seals have excellent optical quality properties and will not interfere with the signal, leading to higher signal-to-noise ratio compared to other brand. The glue that we use has been specially developed for the type of plastic that we use, thus it sticks to the plate very well and leads to better sealing and less evaporation. The seal itself is thicker than usual films, which avoids potential tears; moreover it will not curl and stick to itself.

### qPCR optical caps and seals

Description	Reference	Quantity
qPCR optical semi-dome 8-cap strip, natural	RT-OCAP-300	300 strips
qPCR optical "wide indented" flat 8-cap strip, natural	RT-FLAT-300	300 strips
qPCR opti-seals	RT-OPSL-25	25
(optical, disposable, adhesive)	RT-OPSL-100	100

### Available 96-well plate samples

Reference	Product name	# items
RT-PL96-ABSA	qPCR 96-well plate sub-skirted, high profile, frosted (ABI system) sample	2
RT-PL96-ABWSA	qPCR 96-well plate sub-skirted, high profile, white (ABI system) sample	2
RT-PL96-AFSA	qPCR 96-well plate sub-skirted, low profile, frosted (ABI FAST system) sample	2
RT-PL96-AFWSA	qPCR 96-well plate sub-skirted, low profile, white (ABI FAST system) sample	2
RT-PL96-MQSA	qPCR 96-well plate sub-skirted, high profile, natural sample	2
RT-PL96-MQWSA	qPCR 96-well plate sub-skirted, high profile, white sample	2
RT-PL96-OPSA	qPCR 96-well plate sub-skirted, low profile, natural sample	2

### Available 96 & 384-well plate samples

Reference	Product name	# items
RT-PL96-OPWSA	qPCR 96-well plate sub-skirted, low profile, white sample	2
RT-PL96-LC480SA	qPCR 96-well plate semi-skirted, low profile, white (for LC480) sample	2
RT-FLAT-SA	qPCR optical flat 8-cap strip, natural sample	24
RT-OCAP-SA	qPCR optical semi-domed 8-cap strip, natural sample	24
RT-OPSL-SA	qPCR opti-seals sample	2
RT-PL384-LCWSA	qPCR 384-well white plate, skirted, low profile for Roche LC480	2
RT-PL384-ABWSA	qqPCR 384-well white plate, skirted, low profile for ABI, Bio-Rad and Eppendorf systems	2

96-well plate compatibility with Real-Time thermocyclers

LC480  
 Quantica®  
 CFX 96/384  
 MiniOpticon®  
 Chromo 4  
 DNA Engine Opticon® 2  
 DNA Engine Opticon® 1  
 MasterCycler ep realplex  
 MX3005P®  
 MX3000P®  
 MX4000®  
 iQ™5  
 My iQ®  
 iCycler iQ®  
 ABI Step One® Plus  
 ABI Step One®  
 ABI Prism® SDS 7900 FAST  
 ABI Prism® SDS 7900  
 ABI Prism® SDS 7900HT  
 ABI Prism® SDS 7700  
 ABI Prism® SDS 7500 FAST  
 ABI Prism® SDS 7500  
 ABI Prism® SDS 7300  
 ABI Prism® SDS 7000  
 ABI GeneAmp® 5700

qPCR 96-well plate type	Cover	LC480	Quantica®	CFX 96/384	MiniOpticon®	Chromo 4	DNA Engine Opticon® 2	DNA Engine Opticon® 1	MasterCycler ep realplex	MX3005P®	MX3000P®	MX4000®	iQ™5	My iQ®	iCycler iQ®	ABI Step One® Plus	ABI Step One®	ABI Prism® SDS 7900 FAST	ABI Prism® SDS 7900	ABI Prism® SDS 7900HT	ABI Prism® SDS 7700	ABI Prism® SDS 7500 FAST	ABI Prism® SDS 7500	ABI Prism® SDS 7300	ABI Prism® SDS 7000	ABI GeneAmp® 5700
Sub-skirted, high profile, frosted or white type (ABI systems)	Flat caps (RT-FLAT-300)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RT-PL96-AB	Adhesive seals (RT-OPSL-XX**)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RT-PL96-ABW	Adhesive seals (RT-OPSL-XX**)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sub-skirted, low profile, frosted or white type (ABI FAST systems)	Adhesive seals (RT-OPSL-XX**)																	✓		✓						
RT-PL96-AF	Adhesive seals (RT-OPSL-XX**)																	✓		✓						
RT-PL96-AFW	Adhesive seals (RT-OPSL-XX**)																	✓		✓						
Non-skirted, high profile, natural or white type	Flat caps (RT-FLAT-300)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RT-PL96-MQ	Adhesive seals (RT-OPSL-XX**)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RT-PL96-MQW	Adhesive seals (RT-OPSL-XX**)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-skirted, low profile, frosted or white type	Flat caps (RT-FLAT-300)																✓*									✓
RT-PL96-OP	Adhesive seals (RT-OPSL-XX**)																✓*									✓
RT-PL96-OPW	Adhesive seals (RT-OPSL-XX**)																✓*									✓
Semi-skirted, low profile, white (for LC480)	Flat caps (RT-FLAT-300)																									✓
RT-PL96-LC480	Adhesive seals (RT-OPSL-XX**)																									✓
Skirted, low profile, white plate for ABI	Adhesive seals (RT-OPSL-XX**)																			✓	✓					
Skirted, low profile, white plate for LC	Adhesive seals (RT-OPSL-XX**)																									✓

qPCR optical semi-dome 8-cap strips are also available (RT-OCAP-300: 300 strips) They can be used on several machines. \* plate must be cut to size (48 well) to fit Step One or MiniOpticon \*\* XX: RT-OPSL-25 for 25 seals / RT-OPSL-100 for 100 seals

Make no compromise with PCR plasticware

Use high quality PCR plates and caps for highly reproducible results, higher efficiency and yields also in small volumes reactions.

Please inquire for other cycler platforms.

## PCR plate compatibility table

Manufacturer	Model	# Wells	Sub-skirted, high profile, frosted	Sub-skirted, low profile, frosted	Non-skirted, high profile, natural	Non-skirted, low profile, frosted	Skirted, low profile, white
			RT-PL96-AB	RT-PL96-AF	RT-PL96-MQ	RT-PL96-OP	RT-PL384-LCW
ABI	GeneAmp® PCR System 2400	24	x	x	✂	x	x
ABI	GeneAmp® PCR System 9600	96	✓	x	✓	x	x
ABI	2700 Thermal Cycler	96	✓	x	✓	x	x
ABI	2720 Thermal Cycler	96	✓	x	✓	x	x
ABI	GeneAmp® PCR System 9700	96/384	✓	x	✓	x	✓
ABI	9800 Fast Thermal Cycler	96 fast	x	✓	x	✓	x
ABI	Verity	96/384	✓	x	✓	x	✓
ABI	Verity Fast	96 fast	x	✓	x	x	x
ABBOT	M2000rt	96	✓	x	✓	x	x
Analytik-Jenna	Flex-Cycler	96/384	x	x	✓	✓	✓
Bioer	XP Cycler	30/48/96/384	x	x	✓	✓	x
Bioer	Little Genius	25	x	x	✂	✂	x
Bioer	Life Express	96	x	x	✓	✓	x
Biometra	Uno	24/48/96	x	x	✓	✓	x
Biometra	Uno II	24/48/96/384	x	x	✓	✓	x
Biometra	Tpersonal	20/48	x	x	✂	✂	x
Biometra	T1 (plus)	48/96/384	x	x	✓	✓	✓
Biometra	TGradient	48/96/384	x	x	✓	✓	x
Biometra	T3/T3000	20/48	x	x	✂	x	x
Biometra	TProfessional	96/384	x	x	✓	✓	✓
Biometra	TRobot	96/384	x	x	✓	✓	✓
Bio-Rad	Gene Cycler	24	x	x	✂	x	x
Bio-Rad	iCycler®	48/96/384	x	x	✓	x	✓
Bio-Rad	MyCycler	96	x	x	✓	x	x
Bio-Rad	C1000/S-1000	96/384	x	x	x	✓	✓
CLP	ATC 201	96	x	x	✓	✓	x

✓ Fits this Cycler

✓ Most optimal plastic for this thermocycler

✂ The plate must be cut

x Not compatible

## PCR plate compatibility table

Manufacturer	Model	# Wells	Sub-skirted, high profile, frosted	Sub-skirted, low profile, frosted	Non-skirted, high profile, natural	Non-skirted, low profile, frosted	Skirted, low profile, white
			RT-PL96-AB	RT-PL96-AF	RT-PL96-MQ	RT-PL96-OP	RT-PL384-LCW
CLP	ATC 401	96	x	x	✓	✓	x
Corbett Research	Palm-Cycler™	60/96/384	x	x	✓	✓	✓
Eppendorf	MasterCycler®	96/384	x	x	✓	✓	✓
Eppendorf	MasterCycler® gradient	96	x	x	✓	✓	x
Eppendorf	MasterCycler® ep gradient	96	x	x	✓	✓	x
Eppendorf	MasterCycler® ep gradient S & MC Pro	96	x	x	✓	✓	x
GRI	G-storm GSI	48 0.2ml/0.5ml	x	x	✓	✓	x
GRI	G-storm GSI	96/384	x	x	✓	✓	x
GRI	G-storm GSX	48 0.2ml/0.5ml	x	x	✓	✓	x
GRI	G-storm GSX	96/384	x	x	✂	✂	x
GRI	G-storm GS4	48 0.2ml/0.5ml	x	x	✓	✓	x
GRI	G-storm GS4	96/384	x	x	✓	✓	x
MJ Research/Bio-Rad	Mini	48	x	x	✂	✂	x
MJ Research/Bio-Rad	PTC-100	60/96	x	x	✓	✓	x
MJ Research/Bio-Rad	PTC-200	30/48/96/384	x	x	✓	✓	✓
MJ Research/Bio-Rad	PTC-221	30/48/96/384	x	x	✓	✓	✓
MJ Research/Bio-Rad	PTC-220	30/48/96/384	x	x	✓	✓	✓
MJ Research/Bio-Rad	PTC-225	30/48/96/384	x	x	✓	✓	✓
MWG	Primus 96	96	x	x	✓	✓	x
MWG	Primus HT Dualblock	96/384	x	x	✓	✓	✓
MWG	Primus Multiblock System	96/384	x	x	✓	✓	✓
Stratagene	Robo-Cycler	96	x	x	✓	✓	x
Takara	TP 600/TP 650/TP 3000	96	x	x	✓	✓	x
Takara	Thermal Cycler Dice	96	x	x	✓	✓	x
Techne	Genius	40/96/384	x	x	✓	✓	✓
Techne	TouchGene gradient	40/96/384	x	x	✓	✓	✓

✓ Fits this Cycler

✓ Most optimal plastic for this thermocycler

✂ The plate must be cut

x Not compatible

## PCR plate compatibility table

Manufacturer	Model	# Wells	Sub-skirted, high profile, frosted	Sub-skirted, low profile, frosted	Non-skirted, high profile, natural	Non-skirted, low profile, frosted	Skirted, low profile, white
			RT-PL96-AB	RT-PL96-AF	RT-PL96-MQ	RT-PL96-OP	RT-PL384-LCW
Techne	FlexiGene/FlexiQuad	96/384	X	X	✓	✓	✓
Techne	TechGene	25/96/384	X	X	✓	✓	✓
Techne	Gene-E	96	X	X	✓	✓	X
Techne	TC-412	96	X	X	✓	✓	X
Techne	TC-512	96/384	X	X	✓	✓	✓
ThermoHybaid	PxE	96	X	X	✓	✓	X
ThermoHybaid	OmniGene	96	X	X	✓	✓	X
ThermoHybaid	PCR Express	48/96/384	X	X	✓	✓	✓
ThermoHybaid	Omn-E	96	X	X	✓	✓	X
ThermoHybaid	TouchDown	48/96	X	X	✓	✓	X
ThermoHybaid	Px2	96/384	X	X	✓	✓	✓
ThermoHybaid	PCR sprint	24	X	X	✂	✂	X
ThermoHybaid	MBS	96/384	X	X	✓	✓	✓
ThermoHybaid	MBSR	96/384	X	X	✓	✓	✓

✓ Fits this Cyclor

✓ Most optimal plastic for this thermocycler

✂ The plate must be cut

x Not compatible

## Sequencer compatibility

Manufacturer	Model	Sub-skirted, high profile, frosted	Sub-skirted, low profile, frosted	Non-skirted, high profile, natural	Non-skirted, low profile, frosted
		RT-PL96-AB	RT-PL96-AF	RT-PL96-MQ	RT-PL96-OP
ABI	310	x	x	✓	x
ABI	3100	x	x	✓	x
ABI	3130	x	x	✓	x
ABI	3700	✓	x	✓	x
ABI	3730	✓	x	✓	x
Beckman	CEQ 8000	✓	x	x	x
Beckman	CEQ 8800	✓	x	x	x
Transgenomics	Wave MD System 4000	x	x	✓	x

Models not mentioned within this list are not compatible with our plates.

Any type of cap/seal can be combined with these machines. Semi-domed caps are recommended for ABI machines.

- ✓ Fits this Cyclor
- ✓ Most optimal plastic for this thermocycler
- ✂ The plate must be cut
- x Not compatible

## qPCR 96/384-well plates

- ✂ No background fluorescence
- ✂ Small volumes
- ✂ For each type of thermocycler
- ✂ Compatible with 8-cap strips or with qPCR optical seals

See page 128

# Assay Dispensing Services

In its constant search for simple, affordable and innovative solutions for the Life Science community, Eurogentec is introducing its dispensing services that bring all advantages of automation within everyone's reach.

Eurogentec can provide you with all needed reagents, from research to IVD/GMP grade, including oligonucleotides, probes, enzymes, MasterMixes and plastics, for single projects up to large OEM productions. All production is performed with a perfect control of all contamination risks, with uniform dosage and ultra low wastage.

The combination of our state-of-the-art liquid handling platform, with our complete range of high quality reagents gives you the possibility to automate your routine assays with more precision and safety.

Our dispensing services are fully scalable and can be adapted to any requirement, for all types of use.

## Benefits

### Upgrade YOUR Homebrew assay to highest standards (ISO 15189)

- Maximal control of contamination risks
- Absolute reproducibility and accuracy
  - In line with ISO15189 guidelines
- Save 10's to 100's K € per year vs CE alternatives

### Ready-to-use solution for YOUR qPCR Assays

- According to YOUR specifications
- We dispense all needed qPCR reagents (Mix, Controls, Primer, Probes)
- In the most convenient format fitting your needs (plate, strips, tubes)

### Ease YOUR workload

- No validation needed, it is your assay
- Simplify internal working procedures
- Only one incoming QC for each batch
  - No more hidden costs

### Bypass human limits

- Perfect reproducibility in small volumes
- Full design flexibility (complex plate structures)
  - No investment or re-validations needed. We automate for you!
- Avoid costly investment and maintenance in liquid handling platforms

## Reagents types

Oligonucleotides - Probes- PCR & qPCR mixes - Controls - Enzymes - Other reagents...

- Research grade reagents - ISO 9001 production, 100 % QC
- IVD grade reagents - ISO 13485 production, 100 % QC, batch record.

## Assays types

- Amplification-based detection and quantitation assays (PCR & qPCR): RNAi, GMO, food, agriculture, pathogen detection, genotyping/SNPs, ChIP assays, gene scanning,...
- HTP screenings: reagents plate set-up for functional or detection screenings (siRNA, enzymes, nucleic acids & peptide libraries,...)

## Format types

	Format*	Minimal quantity	Maximal quantity
Plates	96 & 384-well	10	300
Strips	8 & 12-tube	120	4 000
Tubes	0.2 to 2 ml	100	10 000
Custom & OEM	on request		

\*Plates, strips and tubes compatibles with all types of cyclers are available.

## Volume range and precision

Dynamic vol. range	From 500 nl to 10 ml Uniform or variable volumes per format	
Volume	CV	Accuracy
3 µl	2.30 %	98.70 %
10 µl	0.95 %	99.50 %
50 µl	0.30 %	99.80 %

## Dispensing platform specifications (in line with ISO 15189)

- ▣ Class 100 000 GMP-compliant clean production room (airlock, HEPA filters, temperature-humidity - pressure monitoring, Pharma clothing & cleaning SOPs)
- ▣ Fully IQ/OQ'd robots, laminar flow hoods and all other equipments.

## Project flowchart

### Project analysis

Early-stage projects are welcome, from small-scale production to large OEM manufacturing. A feasibility study is performed in collaboration with the customers to guarantee the success of their project.

### Project transfer

Mature projects can easily be transferred and implemented into production.

### Reagents validation

Before the sampling phase, we assist our customers in validating their assays with our reagents, with the support of experienced technical specialists. Eurogentec molecular biology reagents include a wide range of products, many of those can be customized to fulfill all specific requirements.

### Reagents synthesis

All reagents undergo rigorous Quality Control testing to guarantee excellent quality and consistency of the finished goods. We offer a large selection of standard and customized QC methods.

### Sample batch production

When reagents are validated and a quotation is accepted, a sample batch is produced according to defined QA/QC and manufacturing specifications. QC-approved samples along with all QC data are sent to the customer.

### Sample batch validation

The customer receives the released sample batch, including all QC results, for internal validation.

### Master batch production & release

When sample batch is validated, a large batch is produced upon customer request, according to the quotation details and manufacturing specifications. A full QC, as defined in the QC Release Method, is performed to ensure full compliance with QA and product specifications. Our products are provided with a certificate of analysis, comprising a detailed document with all QC results for the research reagents or a detailed document released after review of the batch record and signed by a QC authorized person for the IVD reagents.

### Your customized dispensed assays

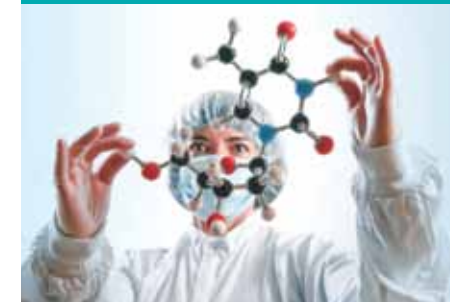
- ▣ Just add your sample & GO - Unique, easy incoming QC - Ideal for complex plate structures
- ▣ cGMP assay assembling - Superior accuracy & reproducibility No user variation
- ▣ No investment needed for automation - Low cost total solution

### Benefits of Dispensed vs. CE assays

- ▣ True unique pipetting
- ▣ Simplified accreditation procedure
- ▣ Turn it into a reference and easily use it in multi sites
- ▣ Up to 15 times less expensive

**Move away from multicomponent assays to the ultimate ready-to-use solution.**

## cGMP Oligonucleotides



From first contact to mature projects, we consider each request with utmost priority.

A dedicated project manager and technical specialists ensure perfect coordination between our customer and the production platform to efficiently convert their project into ready and easy-to-use solutions fulfilling all their specific requirements.

Contact info :  
**dispensing@eurogentec.com**

Eurogentec Headquarters  
Tel. +32 4 372 76 65  
Fax +32 4 372 75 00  
info@eurogentec.com