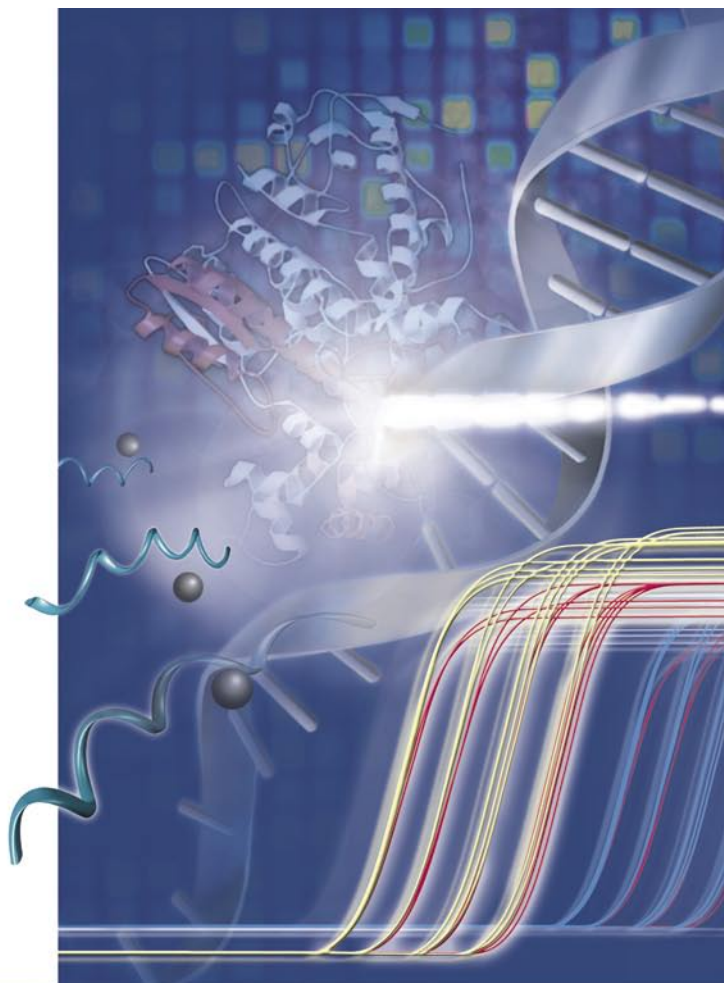


Gene Expression Analysis You Can Count On

Accurate cDNA levels for unbiased two-step qRT-PCR

Real-time gene expression scientists have shown that the **Transcriptor First Strand cDNA Synthesis Kit** is a superb tool for gene expression analysis on any real-time PCR instrument. This kit produces smooth-rising curves with higher fluorescence intensity for better accuracy and resolution, and lower crossing point values.



- **Increase qRT-PCR sensitivity with unbiased reverse transcription.** Simultaneously reverse transcribe both rare and abundant RNAs without altering the original *in vivo* gene expression levels. Profit from optimally aligned products for your workflow that allow analysis of very small differences in gene expression levels (see Figure 1).
- **Simplify data interpretation.** Generate high level fluorescent signal intensities, smooth-shaped curves, and the expected C_T or C_p intervals reflecting increasing amounts of input RNA. Achieve accurate linear quantification over at least eight orders of magnitude of input RNA (see Figure 2).
- **Power transcribe through even the most difficult types of RNA templates.** Easily synthesize cDNA from both normal and GC-rich templates with complex secondary structures, using the higher incubation temperature of 55°C of our genetically-engineered thermostable Transcriptor Reverse Transcriptase.
- **Produce exceptionally large quantities of full-length cDNA.** Use the proven reverse transcriptase that generates very long cDNA transcripts of up to 14 kilobases.
- **Protect your RNA from degradation with our Protector RNase Inhibitor.** This **RNase inhibitor** available separately and with Transcriptor First Strand cDNA Synthesis kits, is fully active at higher temperatures (up to 60°C), and thus tailored to the Transcriptor Reverse Transcriptase.

For more information about Roche Applied Science's complete line of tools for the gene expression analysis workflow, please visit to our Gene Expression Analysis Special Interest site at:

www.gene-expression.roche.com

Choose the **Transcriptor First Strand cDNA Synthesis Kit**, or the appropriate single enzymes, to obtain a more sensitive and reproducible two-step qRT-PCR result. Reverse transcribe RNA and maintain the original quantitative relationships for the following qPCR.

The Transcriptor First Strand cDNA Synthesis Kit contains all the necessary RT components, including the Transcriptor Reverse Transcriptase enzyme, specially-formulated RT reaction buffer, dNTP mix, unique anchored-oligo (dT)₁₈ primer, random hexamer primer, Protector RNase Inhibitor, control RNA and control PBGD primer mix.

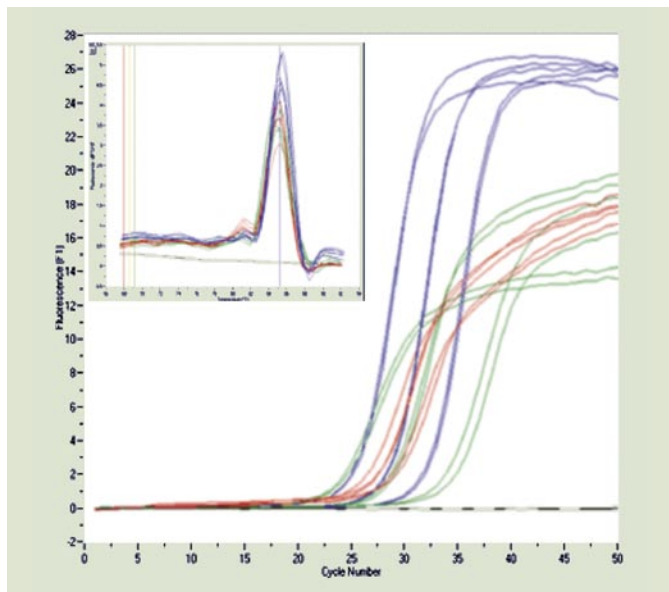


Figure 1: Two-step RT-PCR with Transcriptor Reverse Transcriptase shows higher sensitivity, reproducibility and scalability, better reflecting the differences in the amount of input RNA.

LightCycler® Instrument Real-Time PCR was performed with primers specific for human dystrophin, on 10 ng, 100 ng and 1 µg of total RNA from human skeletal muscle, using the LightCycler® FastStart DNA Master SYBR Green Kit. Total RNA was reverse transcribed by oligo(dT) priming with either the Transcriptor First Strand cDNA Synthesis Kit from Roche Applied Science (**blue curves**), or using kits from two different suppliers (**green and red curves**).

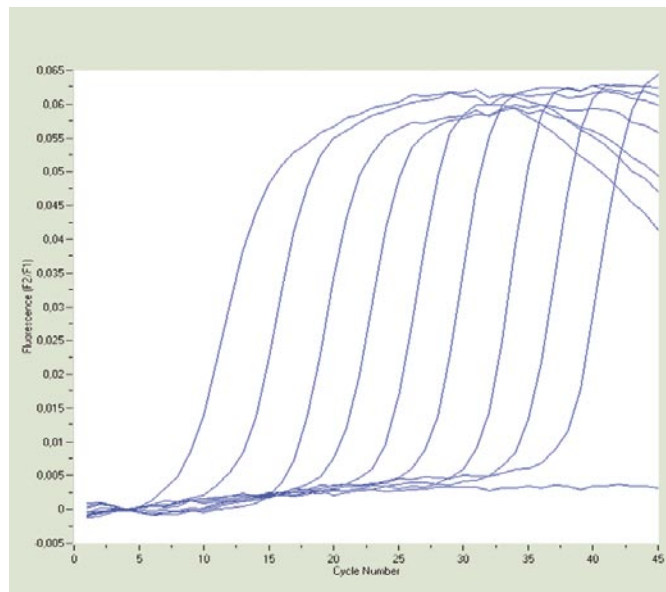


Figure 2: Real-time PCR quantification (qPCR) of a 10⁹-fold range of input RNA transcribed using the Transcriptor First Strand cDNA Synthesis Kit. A ten-fold dilution series of five copies to 5 x 10⁹ copies of *in vitro* transcribed PBGD RNA was reverse transcribed, and the subsequent real-time PCR was performed with primers and probes specific for PBGD. Note, that the Transcriptor First Strand cDNA Synthesis Kit enables an accurate linear quantification over nine orders of magnitude (10⁹ fold) of input RNA!

Product	Cat. No.	Pack Size
Transcriptor First Strand cDNA Synthesis Kit	04 379 012 001	1 kit (50 reactions, incl. 10 control reactions)
	04 896 866 001	100 reactions
	04 897 030 001	200 reactions
Transcriptor High Fidelity cDNA Synthesis Kit*	05 091 284 001	1 kit (50 reactions, incl. 10 control reactions)
	05 081 963 001	100 reactions
	05 081 955 001	200 reactions
Transcriptor Reverse Transcriptase (single reagent)	03 531 317 001	250 U for 25 reactions
	03 531 295 001	500 U for 50 reactions
	03 531 287 001	2,000 U (4 x 500 U)
Protector RNase Inhibitor (single reagent)	03 335 399 001	2,000 U
	03 335 402 001	10,000 U (5 x 2,000 U)

* Choose the **Transcriptor High Fidelity cDNA Synthesis Kit** for sequencing and cloning applications requiring the highest possible accuracy.

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