qPCR Human Reference Total RNA

High performance total RNA standard for quantitative RT-PCR

- **Ideal control for comparing gene expression data from different qPCR experiments**
- **Pool of total RNA samples prepared from a panel of whole human tissues**
- **Assayed for genomic DNA contamination and performance tested by qPCR**

Gene expression studies involving quantitative RT-PCR have driven the need for readily available, highly representative reference RNA samples. To meet this need, we developed **qPCR Human Reference Total RNA**—a reliable reference standard for use in quantitative RT-PCR experiments. With our qPCR Human Reference Total RNA you can be assured of consistent results every time you prepare a standard curve for your qPCR assays.

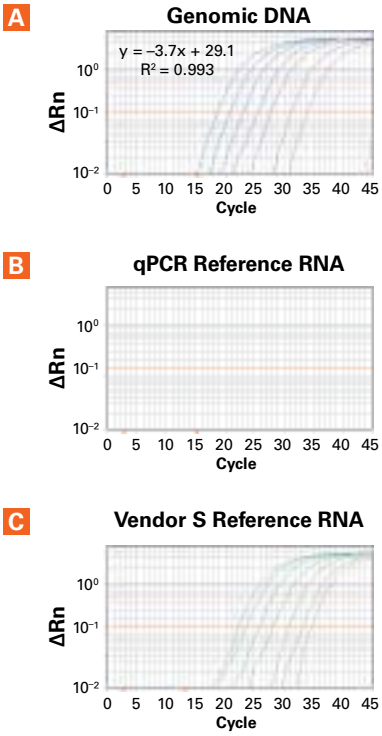

Figure 1. qPCR Human Reference Total RNA is virtually free of genomic DNA. A standard curve was generated using human genomic DNA and K-ras gene primers (**Panel A**); genomic DNA samples ranged from 1,000 ng to 64 pg, which translated to a ΔC_t of 3.67 cycles per 10-fold dilution. Based on the standard curve, qPCR Human Reference Total RNA showed <64 pg of genomic DNA per 1 µg of RNA (**Panel B**). Reference RNA from Vendor S demonstrated 82 ng of genomic DNA per 1 µg of RNA (**Panel C**).

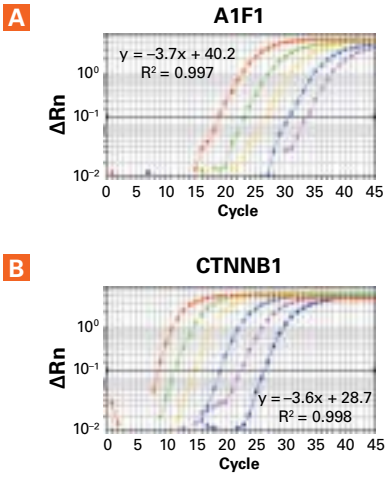

Figure 2. Reverse transcription of real-time qPCR analyses using qPCR Human Reference Total RNA. Serial ten-fold dilutions of reverse-transcribed qPCR Human Reference Total RNA were analyzed by real-time PCR on an ABI Prism 7700 using allograft inflammatory factor 1 (A1F1; **Panel A**) and beta-1 catenin (CTNNB1; **Panel B**) gene-specific primers. Each curve represents a different template dilution.

Highest quality RNA

Our reference total RNA has been meticulously prepared to ensure the highest degree of performance in your qPCR assays. It is assayed by qPCR to ensure that it is virtually free from genomic DNA contamination (Figure 1) and is functionally tested using qPCR to provide you with an essentially perfect RNA standard.

Broadest possible gene coverage

Our qPCR Reference Total RNA is prepared by pooling the total RNAs from a collection of different whole human tissues, ensuring the broadest possible gene representation. We have found that RNA prepared from whole human tissues produces higher overall expression with less signal variation as compared to using reference RNA mixtures prepared from cell lines (1–3). In addition, our Reference RNA is produced on an industrial scale to minimize lot-to-lot variation. qPCR Reference Total RNA provides you with consistent gene coverage and great flexibility—the result is an RNA reference standard that consistently provides homogeneous signal intensities across the majority of genes and the broadest possible gene representation available. In addition to validating quantitative RT-PCR enzymology (Figure 2), our reference RNA can be used for validating new qPCR assays, testing gene primer design, and troubleshooting gene expression data.

When comparing data from a variety of qPCR experiments, select the best reference control available—select qPCR Human Reference Total RNA.

Product	size	Cat. No.
qPCR Human Reference Total RNA	25 µg	636690

Related Products

- qPCR Human Reference cDNA, random-primed (Cat. Nos. 639653 & 639654)
- qPCR Human Reference cDNA, oligo(dT)-primed (Cat. Nos. 636692 & 636693)
- QTaq™ DNA Polymerase Mix (Cat. Nos. 639651, 639652, 639655)
- QZyme™ Assays (many)
- SMART™ MMLV Reverse Transcriptase (Cat. Nos. 639522, 639523 & 639524)

References

1. Control RNA for microarray experiments (April 2002) *Clontechniques* **XVII**(2):6.
2. Atlas® Antisense Oligo Mixes and Universal Reference RNA (July 2002) *Clontechniques* **XVII** (3):6.
3. Clontech Universal Reference Total RNA (April 2003) *Clontechniques* **XVIII**(2):18.