

Tetro™ Reverse Transcriptase and cDNA Synthesis Kit

Reverse Transcription at its best

- **Sensitive:** for high-quality, full length cDNA from as little as 10 pg of total RNA, suitable for rare transcripts
- **Ultra-stable:** reliable reverse transcription of long genes
- **High-yield:** produces high-quality cDNA ideal for PCR
- **Broad dynamic range:** 10 pg to 2 µg of total RNA

Tetro™ Reverse Transcriptase is a highly sensitive, high stability MMLV reverse transcriptase. Tetro Reverse Transcriptase is optimized for reverse transcription reactions using a wide range of total RNA types, such that long and low abundance transcripts can be detected by amplification after cDNA synthesis.

Tetro Reverse Transcriptase is suitable for first-strand cDNA synthesis, cDNA library construction, generation of probes for hybridization and the production of templates for RT-PCR analysis of gene expression. Some RNA transcripts form stable secondary structures at low temperatures, making them poor templates for RT-PCR, Tetro Reverse Transcriptase however is active up to 45 °C, making it the ideal choice even for those more challenging transcripts.

HIGH SENSITIVITY

Tetro Reverse Transcriptase is a Moloney Murine Leukaemia Virus (MMLV) Reverse Transcriptase, which exhibits high stability, with no loss of activity following 1 week at room temperature. Tetro Reverse Transcriptase is highly sensitive even when the amount of template is a limiting factor, with highly efficient and sensitive transcription from 10 pg to 2 µg of RNA (Fig. 1).

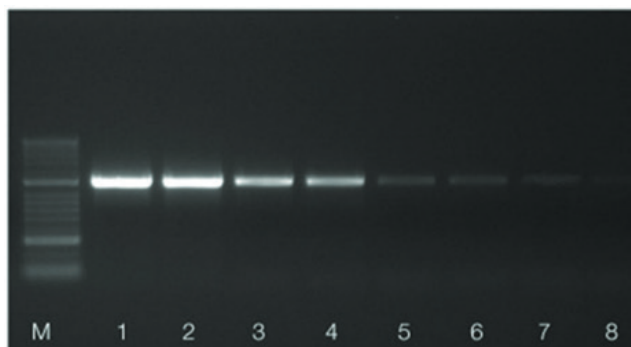


Fig. 1 High sensitivity with mouse total RNA

A 5-fold serial dilution of total RNA from mouse brain (1 µg to 10 pg) was reverse transcribed using 50 units of Tetro Reverse Transcriptase, oligo (dT)₁₈ and random hexamers in a 20 µL reaction volume. The resultant cDNA was then used as a template in a PCR, using primers for amplification of a 1 kb fragment from mouse calnexin, PCR was performed using MyTaq HS in a 20 µL reaction, (lanes 1-8, including HyperLadder 50bp (M)). The results illustrate the sensitivity of Tetro Reverse Transcriptase even when the amount of template RNA is limited.

APPLICATIONS

The high-quality first-strand cDNA generated makes Tetro Reverse Transcriptase ideal for:

- Construction of cDNA libraries
- 2- Step PCR assays
- Generation of probes for hybridization
- Gene cloning

Tetro Reverse Transcriptase has been validated with total RNA, mRNA and *in vitro* transcribed RNA, giving exceptional performance with gene-specific primers, oligo (dT) and random hexamers. Tetro is perfect for the production of templates used in RT-PCR analysis.

COMPLETE KIT

Tetro cDNA Synthesis Kit contains all the necessary components to generate high-quality cDNA from RNA templates. The first-strand cDNA generated is ideal for PCR (Fig. 1) and can be used in a variety of other applications, such as analysis of cellular RNAs, characterization of RNA splice variants and the cloning of cDNA. Tetro cDNA Synthesis Kit is optimized for RT reactions over a wide range of total RNA concentrations, such that long and low-abundance cDNA can be detected by amplification after cDNA synthesis. The kit contains oligo(dT)₁₈ and random hexamer primers. The kit components are fully optimized to generate maximum yield lengths.

Ordering Information

Tetro Reverse Transcriptase and cDNA Synthesis Kit	Size	Cat. #
Tetro Reverse Transcriptase	10,000 u	BIO-65050
Tetro cDNA Synthesis Kit	30 Reactions	BIO-65042
	100 Reactions	BIO-65043

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