



MyTaq™ One-Step RT-PCR Kit

Superior Sensitivity and Specificity

- **Sensitive:** incorporates a blend of high-affinity RT and novel MyTaq HS DNA Polymerase, enabling amplification of low-copy number targets from ≥ 3 pg total RNA
- **Efficient:** novel one-step buffer system maximizes the efficiency of both the reverse transcription and PCR steps, delivering improved yield of any target
- **Robust:** RT tolerates the higher reaction temperatures required to overcome secondary structure, giving reliable detection of even challenging and GC-rich targets
- **Specific:** MyTaq HS DNA Polymerase is an antibody-mediated hot-start enzyme that remains completely inactive during PCR set-up to prevent non-specific amplification
- **Flexible:** utilizes gene-specific primers for full-length reverse transcription and subsequent PCR amplification of any RNA target
- **Convenient:** an all-in-one-tube mastermix that improves the speed, convenience and accuracy of RT-PCR

MyTaq™ One-Step RT-PCR Kit has been formulated for highly reproducible first-strand cDNA synthesis and subsequent PCR in a single tube. A combination of the latest advances in buffer chemistry together with a proprietary reverse transcriptase and MyTaq HS DNA Polymerase ensure ultra-sensitive and highly-specific amplification of a broad range of RNA targets.

MyTaq One-Step RT-PCR Kit incorporates the latest advances in buffer chemistry, including Meridian ultra-pure dNTPs, together with a proprietary reverse transcriptase and MyTaq™ HS, a new generation of antibody-mediated hot-start DNA polymerase. This ensures that MyTaq One-Step RT-PCR Kit enables fast, highly-specific and ultra-sensitive amplification of RNA targets for use in a broad range of downstream applications.

MyTaq One-Step Kit consists of a proprietary reverse transcriptase, 2x MyTaq™ HS Mix and the potent RNase Inhibitor, RiboSafe, that are blended to create a simple to use all-in-one mix. The kit is ideal for determining the presence or absence of RNA templates and quantifying expression through qualitative or semi-quantitative analysis of RNA transcription levels. The one-step format is also perfect for the synthesis of double-stranded cDNA products for subsequent gene expression analysis.

BROAD TEMPERATURE RANGE

MyTaq One-Step RT-PCR Kit can reverse transcribe RNA over a broad temperature range (Fig. 1). The use of higher temperatures allows reverse transcription through RNA secondary structure, including difficult and GC-rich sequences. Enhanced amplification of these targets ensures high cDNA yields from all RNA, including total RNA, mRNA, in vitro transcribed RNA, snRNA and viral RNA.

APPLICATIONS

- Gene-expression analysis
- Transcription analysis
- cDNA cloning
- Multiplex RT-PCR

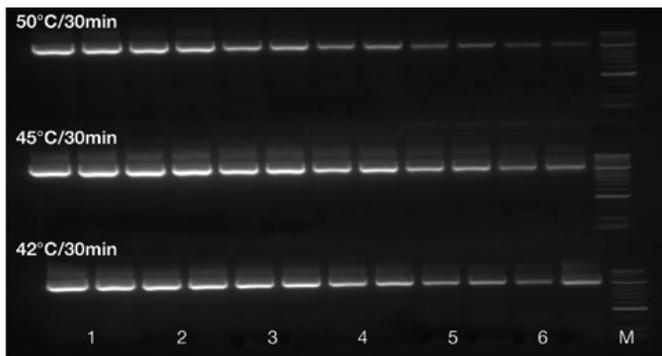


Fig. 1 Broad temperature range

A 5-fold serial dilution of mouse total RNA in duplicate (10 ng to 3 pg; lanes 1-6 respectively, including HyperLadder 50bp (M)), was reverse transcribed for 30 min at 42 °C, 45 °C and 50 °C. The cDNA was then amplified with RN18S-1000 primers to produce a 1 kb fragment. The results illustrate that MyTaq One-Step RT-PCR Kit was able to deliver high-quality cDNA over a broad temperature range.

HIGH SENSITIVITY AND SPECIFICITY

MyTaq One-Step RT-PCR Kit specially formulated enzyme blend ensures highly efficient and sensitive transcription from as little as 3 pg total RNA (Fig. 2). Superior sensitivity and specificity can be achieved by use of gene-specific primers, maximizing amplification of these targets while eliminating non-specific amplification.

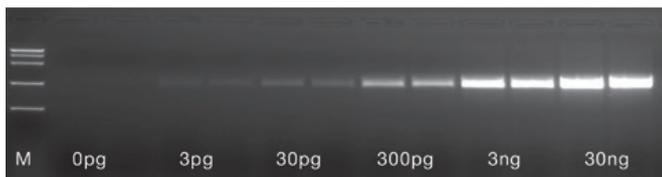


Fig. 2 High-Sensitivity

A 10-fold serial dilution of mouse total RNA in duplicate (30 ng to 3 pg respectively, including HyperLadder 50 bp (M)) was reverse transcribed at 45 °C for 40 min, followed by 95 °C for 5 min. The cDNA was amplified using RN18S-1000 primers to produce a 1 kb fragment. The results illustrate that MyTaq One-Step RT-PCR Kit was able to amplify low-copy number samples.



When we compared the performance of our routine supplier's RTase against Meridian MyTaq One-Step RT-PCR Kit, the other supplier's RTase gave two false negatives in five different grapevine samples tested for Grapevine rupestris stem-pitting-associated Foveavirus. We were convinced to immediately switch.”

UNIVERSITY OF ADELAIDE, AUSTRALIA

INCREASED YIELD

The unique combination of a high-performance reverse transcriptase, MyTaq HS DNA Polymerase and an optimized buffer system, eliminates any non-specific amplification products, such as primer-dimers and reduces background smearing to deliver very high-yield PCR amplification (Fig. 3).

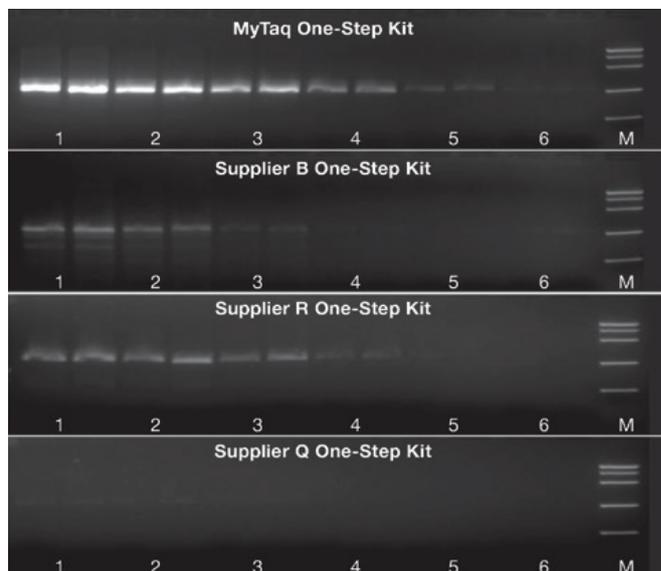


Fig. 3 High yield and sensitivity

A 5-fold serial dilution of human total RNA in duplicate (10 ng to 3 pg; lanes 1-6 respectively, including HyperLadder 50bp (M)) was reverse transcribed and then amplified using β -actin primers to produce a 1 kb fragment, according to the manufacturers' recommended protocol. The results illustrate the higher yields and greater sensitivity obtained from MyTaq One-Step RT-PCR Kit in comparison to supplier B, R and Q.

Ordering Information

MyTaq™ One-Step RT-PCR Kit	Size	Cat. #
MyTaq One-Step RT-PCR Kit	25 Reactions	BIO-65048
	100 Reactions	BIO-65049

Please contact us for institutional pricing, special price quotations and availability of bulk pack sizes. For related products, such as RNA isolation kits, agarose and molecular weight markers visit www.bioline.com

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