# 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 Bioline 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

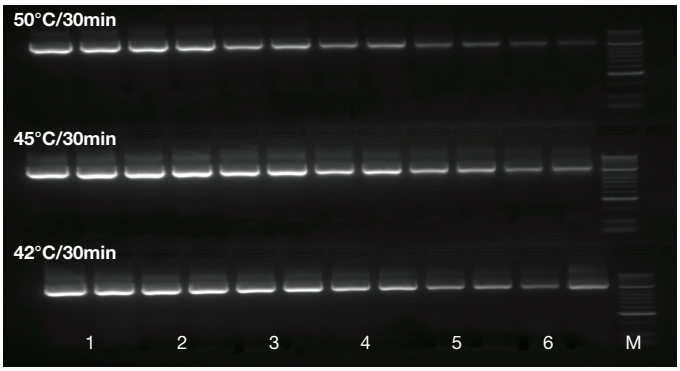


**Fig. 1 Broad temperature range**
A 5-fold serial dilution of mouse total RNA in duplicate (10 ng to 3 pg; lanes 1-6 respectively, including HyperLadder 50bp (M)), was reverse transcribed for 30 min at 42 °C, 45 °C and 50 °C. The cDNA was then amplified with RN18S-1000 primers to produce a 1 kb fragment. 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.

## 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).

*"When we compared the performance of our routine supplier's RTase against Bioline 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

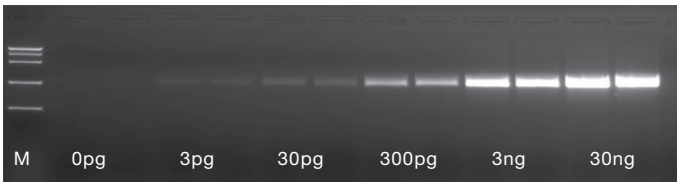


**Fig. 2 High-Sensitivity**
A 10-fold serial dilution of mouse total RNA in duplicate (30 ng to 3 pg respectively, including HyperLadder 50 bp (M)) was reverse transcribed at 45 °C for 40 min, followed by 95 °C for 5 min. The cDNA was amplified using RN18S-1000 primers to produce a 1 kb fragment. The results illustrate that MyTaq One-Step RT-PCR Kit was able to amplify low-copy number samples.


**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 |

**Nous contacter**

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