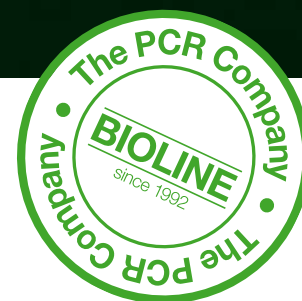


All together better for RNA analysis

MyTaq™ One-Step RT-PCR Kit



- Extremely sensitive blend of RT and novel hot-start MyTaq
- Highly optimized for detection of low-copy genes
- Overcomes secondary structure in difficult and GC-rich targets
- High-quality, full-length cDNA from as little as 3pg of total RNA
- Simple to use all-in-one mix

MyTaq™ One-Step RT-PCR Kit has been designed for extremely sensitive and highly reproducible first-strand cDNA synthesis and subsequent PCR in a single tube. The kit contains the latest advances in buffer chemistry, including Bioline's ultra-pure dNTPs, together with reverse transcriptase (RT) and our new generation of very high performance, antibody-mediated hot-start DNA polymerase (MyTaq HS). This enables the MyTaq One-Step RT-PCR Kit to rapidly generate highly-specific products for downstream applications.

MyTaq One-Step Kit consists of reverse transcriptase, 2x MyTaq HS Mix and RiboSafe, a potent RNase Inhibitor, all components being optimized together to create a simple to use all-in-one kit.

MyTaq One-Step RT-PCR Kit reduces reaction-to-reaction variability and helps prevent contamination by minimizing hands-on steps. It is ideal for determining the presence or absence of RNA templates and quantifying expression through qualitative, semi-quantitative or 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 (Table 1).

Gene-expression analysis	Cloning	Sequencing	Transcription analysis
Analysis of specific RNA splice variants	Detection of mRNA splicing isoforms	Single-cell RT-PCR	Mutation analysis at RNA level
Genotyping	Multiplex RT-PCR	Virus detection	High-throughput

Table 1.

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MyTaq™ One-Step RT-PCR Kit

Broad temperature range for use with difficult templates

MyTaq One-Step RT-PCR can reverse transcribe RNA over a broad temperature range (37-50°C) (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 and viral RNA.

High sensitivity and specificity

The MyTaq One-Step RT-PCR Kit specially formulated enzyme blend ensures highly efficient and sensitive transcription from as little as 3pg total RNA (fig. 2). Even greater sensitivity and specificity can be achieved by use of gene-specific primers, designed to match RNA/cDNA targets, maximizing amplification of these targets while minimizing amplification of other sequences.

Better yields and greater sensitivity

MyTaq One-Step RT-PCR Kit combines the high-performance of the reverse transcriptase with the power of MyTaq polymerase technology, to produce a better yield and higher sensitivity than other one-step RT-PCR kits under all conditions tested (fig. 3). After reverse transcription, reactions are heated to 95°C for 1 minute to activate MyTaq HS DNA Polymerase and simultaneously inactivate the reverse transcriptase. This hot-start of the PCR, eliminates any non-specific amplification products, such as primer-dimers and reduces background smearing, so ensuring highly sensitive and reproducible product for downstream applications.

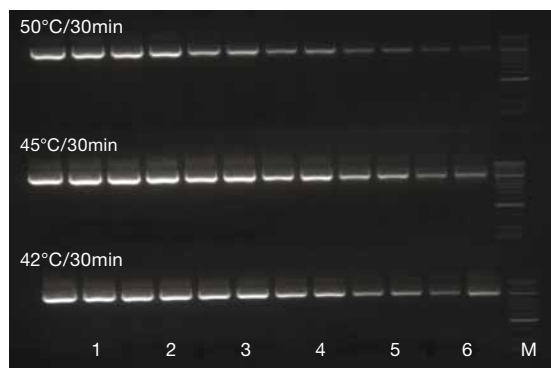


Fig. 1. Broad temperature range of MyTaq One-Step RT-PCR Kit
A serial dilution of mouse total RNA in duplicate (10ng, 2ng, 400pg, 80pg, 16pg and 3pg; lanes 1-6 respectively), was used in a reverse transcription reaction for 30min and then amplified with RN18S-1000 primers to produce a 1kb fragment. The cycling was performed under the following conditions: 95°C for 2min, followed by 40 cycles at 95°C for 30s and 58°C for 60s. HyperLadder II (M) (BIO-33039). The reverse transcriptase in the MyTaq One-Step RT-PCR Kit was able to deliver high quality cDNA even at 50°C over a broad dynamic range.

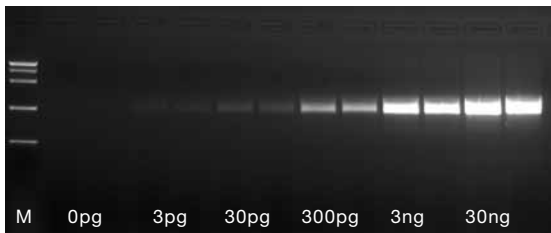


Fig. 2. Sensitivity of MyTaq One-Step RT-PCR Kit
A serial dilution of mouse total RNA (30ng, 3ng, 300pg, 30pg and 3pg respectively) in duplicate was used in a reverse transcription reaction at 45°C for 40 min and amplified using RN18S-1000 primers to produce a 1kb fragment. The cycling was performed under the following conditions: 95°C for 5min and 30 cycles at 95°C for 30s, 58°C for 30s and 72°C for 60s. This was analysed on a 1% agarose gel (BIO-41025). HyperLadder II (M) (BIO-33039).

Note: MyTaq and HyperLadder are trademarks of Bioline.

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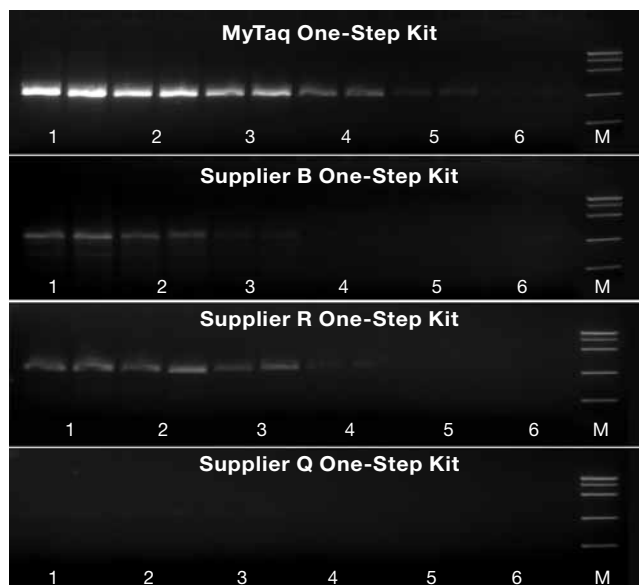


Fig. 3. High yield and sensitivity of MyTaq One-Step RT-PCR Kit
A serial dilution of human total RNA (10ng, 2ng, 400pg, 80pg, 16pg and 3pg; lanes 1-6 respectively) in duplicate was used in a reverse transcription reaction at 45°C for 40min and then amplified using β -actin primers to produce a 1kb fragment. The cycling was performed under the following conditions: 95°C for 5min and 30 cycles at 95°C for 30s, 58°C for 30s and 72°C for 60s. The experiment was performed with MyTaq One-Step RT-PCR Kit together with kits from suppliers B, R and Q, employing associated reaction conditions. HyperLadder II (M) (BIO-33039).

Ordering Information

PRODUCT	PACK SIZE	CAT NO.
MyTaq One-Step RT-PCR Kit	10 Reactions	BIO-65047
MyTaq One-Step RT-PCR Kit	25 Reactions	BIO-65048
MyTaq One-Step RT-PCR Kit	100 Reactions	BIO-65049

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