All-in-One™ First-Strand cDNA Synthesis Kit

Dependable

The All-in-One™ First-Strand cDNA Synthesis Kit offers a robust solution for cDNA synthesis from almost any RNA source. The kit includes a reverse transcriptase and a specialized set of reagents designed to yield cDNA that is optimal for gene cloning, cDNA library creation and quantitative PCR amplification.

Practical

The kit uses Moloney murine leukemia virus reverse transcriptase, RNase H Minus (M-MLV RT (H–)) which is an RNA-dependent DNA polymerase that is used in cDNA synthesis with long RNA templates. The lack of RNase H activity is important in this application in that RNase H activity will start to degrade template during long incubation times which are required for producing long cDNAs. RNase H minus RT enables preparation of long cDNAs and libraries containing a high percentage of full-length cDNA.

An example showing assessment of reverse transcription efficiency using the All-in-One First-Strand Synthesis Kit is shown below. The amplification results of different genes or gene regions were obtained using the oligo(dT) synthesized cDNA prepared from the All-in-One First-Strand cDNA Kit.

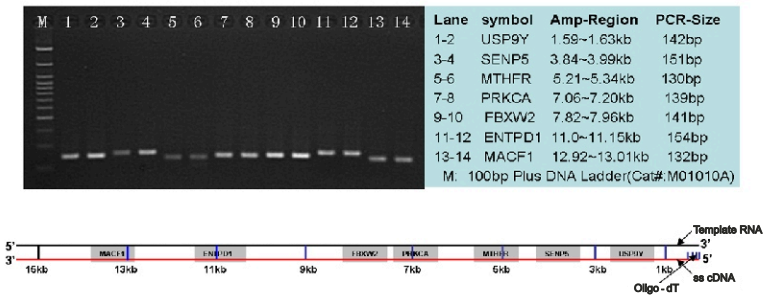


Figure 1. Synthesis Kit by oligo(dT) primer. The synthesized cDNA from human placenta was then used to amplify different gene regions by quantitative PCR using the All-in-One qPCR Mix (GeneCopoeia Catalog No. AOPR-0200). The positive amplification result of MACF1 indicates that up to 13 kb RNA sequence was reversed transcribed.

Efficient, cost-effective solution

The All-in-One first-strand cDNA synthesis kit offers a robust experimental design and delivers a universal kit suitable for first-strand cDNA synthesis from most any source of RNA

- Efficient and easy
- Reliable
- Cost efficient

All-in-One validated human, mouse and rat gene-specific primers available.

Search online for your gene.

www.genecopoeia.com

GeneCopoeia™
Expressway to Discovery

All-in-One™ qPCR mix and validated primers

All-in-One™ SYBR® Green qPCR mix with validated primers provide universal qPCR reaction conditions and robust quantitative PCR data. The jointly developed and co-optimized All-in-One qPCR mix and gene-specific primers deliver the entire range of advantages you need without the high costs.

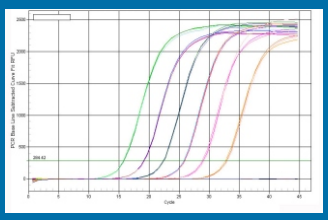
- Uniform reaction conditions reduce experimental design
- High amplification efficiency and sensitivity even for low- copy genes
- Absence of non-specific amplification* and no primer-dimers*

All-in-One qPCR validated primers get the job done by delivering reliable and reproducible high performance in quantitative PCR assays. See the GeneCopoeia website for validation data and to search for gene-specific primers.

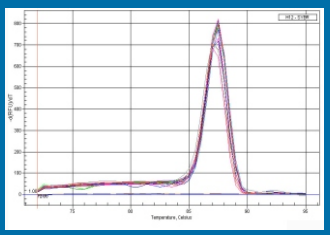
*Non-specific amplification and absence of primer-dimers are ensured when All-in-One validated PCR primers and PCR mix are used together.

Product	Catalog Number	Contents
All-in-One™ qPCR Mix (20 µl x 200 qPCR reactions)	AOPR-0200	High-fidelity, hot-start DNA polymerase, optimized reaction buffer and dNTPs
All-in-One™ qPCR Mix (20 µl x 600 qPCR reactions)	AOPR-0600	High-fidelity, hot-start DNA polymerase, optimized reaction buffer and dNTPs
All-in-One™ First-Strand cDNA Synthesis Kit (20 synthesis reactions)	AORT-0020	M-MLV RT (RNase H-), Reaction Buffer, RNase Inhibitor, dNTPs, Oligo(dT)18, Random Primer and ddH_20
All-in-One™ First-Strand cDNA Synthesis Kit (50 synthesis reactions)	AORT-0050	M-MLV RT (RNase H-), Reaction Buffer, RNase Inhibitor, dNTPs, Oligo(dT)18, Random Primer and ddH_20

Amplification curves



Melting curves



Standard curve

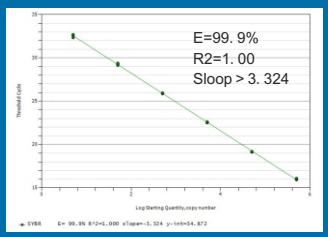


Figure 2. The amplification efficiency and detection sensitivity of the All-in-One qPCR Mix are assessed by standard curves made by gradient dilution of plasmid DNA from 5×10^6 to 5 molecules. The peak values from amplification and melting curves show that very high sensitivity can be obtained using All-in-One qPCR Mix which can detect as low as 5 molecules. At the same time, high amplification efficiency has also been shown by a good linear relationship among each concentration.

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