PRODUCT: SMARTScribe™ Reverse Transcriptase

CATALOG No.	AMOUNT
639535	10 rxns

(Not sold separately)

LOT NUMBER
Specified on product label.

STORAGE CONDITIONS
Store at –20°C.

SHELF LIFE
1 year from date of receipt under proper storage conditions.

SHIPPING CONDITIONS
Dry ice (–70°C)

DESCRIPTION
SMARTScribe Reverse Transcriptase is a modified Moloney Murine Leukemia Virus Reverse Transcriptase that synthesizes full-length cDNA from rare or long transcripts. SMARTScribe RT preparations are exceptionally pure, with all contaminating nucleases removed. The enzyme is useful for a wide range of applications, and has been specially formulated for use with all of our SMART™ Kits.

PACKAGE CONTENTS
- 10 µl SMARTScribe RT (100 Units per µl)
- 1ml 5X First-Strand Buffer
- 500 µl 20 mM DTT

OTHER
- SMARTScribe Reverse Transcriptase Protocol-at-a-Glance (PT4080-2)

FOR RESEARCH USE ONLY

QUALITY CONTROL DATA
See back of page.

APPROVED BY: _____

(PA943193)

QUALITY CONTROL DATA

This lot of purified SMARTScribe RT was tested to ensure the quality and performance of the enzyme.

FUNCTIONAL ANALYSIS: First-strand cDNA Synthesis

SMARTScribe RT and a modified oligo$(dT)_{18}$ primer were used to reverse transcribe a ladder of nine poly A^+ RNA transcripts ranging in size from 0.5 to 10 kb. Following a 1 hr incubation at 42°C, the products were separated on an agarose-EtBR stained gel and visualized by UV illumination. At a minimum, distinct bands with minimal smearing were observed for all cDNAs up to 10 kb.

FUNCTIONAL ANALYSIS: SMART RACE cDNA Amplification

5′ and 3′ SMART RACE reactions were performed using SMARTScribe RT, Human Placenta Total RNA, and our SMARTer™ RACE cDNA Amplification Kit. The products were separated on an agarose gel and visualized by UV illumination. At a minimum, the 5′ and 3′ RACE reactions produced 2.6 kb products and 2.9 kb products, respectively, from 50 ng of template RNA. Controls for both the 5′ and 3′ RACE reactions produced a 0.3 kb fragment.

RAW MATERIAL ANALYSIS: Ribonuclease Contamination Assay

To ensure the absence of ribonucleases, SMARTScribe RT was incubated with an RNA ladder under conditions typical for first-strand cDNA synthesis (excluding primer and dNTPs). In this assay, 1 µl of SMARTScribe RT was incubated with 3 µg of an RNA ladder for 1 hr at 37°C. Following incubation, the sample was analyzed by electrophoresis on a formaldehyde-agarose gel. No degradation of the RNA bands was observed when compared to a control sample containing RNA and buffer but no enzyme.

Additional Testing

This preparation of SMARTScribe RT was further analyzed to ensure the absence of the following contaminants:

- Endonucleases: none detected
- Exonucleases: none detected
- DNA contamination: none detected

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