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FastGene® Scriptase III

Cat. No.	Pack Size
LS55	100 reactions
LS55s	10 reactions

Storage:
Store at -20°C.

Description:
FastGene® Scriptase III is an improved version of M-MLV Reverse Transcriptase, which exhibits high thermal stability (~55°C) and low RNase H activity. This product requires the purchase of primers (oligo dT, random hexamer) separately.

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Characteristics:
- Produces excellent yields of amplifiable cDNA.
- Can synthesize long cDNA targets, up to 12 kb, from small amounts of input RNA.
- Able to reverse transcribe through RNA secondary structures.
- Strict enzyme purity specifications.

Applications:
- Synthesis of first-strand cDNA
- Array labeling
- cDNA library construction
- 3' and 5' RACE, RT-PCR
- Primer extension

Quality control:
- Purity: >99% on SDS-PAGE
- Endonuclease- and exonuclease-free
- RNase-free
- Inhibitor-free
- Satisfactory cDNA product yield and length

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Protocol:
1. Prepare the PCR mixture on ice with the following **components included in this kit**:

5× First-Strand Buffer	**4 µl**
FastGene® Scriptase III (200 units/µl)	**1 µl**
dNTP Mixture (10 mM each)	**1 µl**
0.1 M DTT	**2 µl**
Template RNA* (not included)	**x µl**
Primer**	**1 µl**
RNase Inhibitor (40 units/µl) - optional	**0.5 µl**
Sterile water (RNase free)	**up to 20 µl**

*** Concentration of template RNA**
Total RNA: 1 pg-5 µg
Messenger RNA (mRNA): 1 pg-500 ng
Specifi RNA: 0.01 pg-0.5 µg

**** Prepare one of the following primers**
Oligo $(dT)_{18}$: 50-100 µM
Random hexamer: 50-100 µM
Specific primer: 15-20 pmol

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An additional annealing step is recommended if using random hexamer. Incubate at 25° for 10 min.

2. Incubate at 50° for 30-60 min.
3. Incubate at 70° for 15 min to inactivate the reaction.

Note:
FastGene® Scriptase III excels at 50°C but, can be adjusted within the range of 42°-55°C based on experimental needs. RNAs containing secondary structure and other challenging targets can be synthesized at 55°C without compromising performance. The incubation time for the synthesis can be decreased to a minimum of 30 min.

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