First-Strand cDNA Synthesis Master Mix, 4x (FSDMM)

Catalog #MB6008

50 reactions

Introduction

ScienCell's First-Strand cDNA Synthesis Master Mix, 4x (FSDMM) is optimized to synthesize the first strand cDNA from total RNA or mRNA. ScienCell's engineered reverse transcriptase has mutations which increase sensitivity and thermostability, improve specificity, and reduce RNase H activity. The ready-to-use 4x master mix contains dNTPs, buffer, ScienCell's engineered reverse transcriptase, RNase inhibitor and both random hexamer and anchored oligo (dT) primers in only one tube. Simply mix template RNA and water with FSDMM to begin the reaction.

Kit Components

Cat #	Item	Quantity	Storage
MB6008a	First-Strand cDNA Synthesis Master Mix, 4x	250 µl	-20°C
MB6008b	Nuclease-free water	1 ml	4°C

Quality Control

Function is tested using a two-step RT-PCR on a conventional thermal cycler, as well as using a two-step RT-qPCR on the Roche LightCycler ® 96 Instrument. DNase or RNase activity is NOT detected by incubating each component of FSDMM with single-stranded DNA and human total RNA samples at 37℃ for 4 hours.

Product Use

FSDMM is for research use only. It is not approved for human or animal use, or for application in clinical or *in vitro* diagnostic procedures.

Shipping and Storage

Dry ice. Upon receipt, store First-Strand cDNA Synthesis Master Mix, 4x (Cat #MB6008a) at -20°C in a manual defrost freezer and nuclease-free H_2O (Cat #MB6008b) at 4°C. Aliquot after the first thawing.

Procedure:

Important: *Only use nuclease-free reagents in first-strand synthesis reaction and downstream applications.*

1. Thaw RNA samples and 4x First-Strand cDNA Synthesis Master Mix and place on ice. Prepare first strand synthesis reactions as shown in Table 1.

   Table 1.

Component	Volume	Final concentration
First-Strand cDNA Synthesis Master Mix, 4x	5 µl	1x
Template RNA	variable	up to 4 µg
Nuclease-free water	variable	-
Total volume per reaction	20 µl	-

2. Gently mix tube contents and incubate at 25ºC for 10 minutes

3. Incubate tube at 45ºC for 1 hour.

4. Terminate the reaction by incubating at 85ºC for 5 minutes.

5. Use diluted or undiluted cDNA in downstream applications, or store at -20ºC until needed.