

## cDNA Supermix Synthesis Kit + gDNA Remover

**Product #:** Bi2M-SSRT3

**Quantity:** 50 reactions

**Note:** *upgraded from Bi2M-SSRT2 providing superior quality and simplified workflow*

### Product Description

- This product contains a **ready-to-use** and **all-in-one** **5X master mix** required for RNA reverse transcription and simultaneous gDNA removal.
- Designed for rapid and cost-effective preparation of high quality first-strand complementary DNA (cDNA) with total RNA or mRNA as the template.
- The 5X master mix contains proprietary reverse transcriptase enzyme, thermosensitive DNase enzyme, RNase Inhibitor, Random Primer, Oligo(dT)18 Primer, dNTPs and an optimized buffer system for single-pot chemistry.
- This product utilizes a proprietary modified mutant reverse transcriptase obtained through *in vitro* evolutionary screening. The modified enzyme has improved thermal stability, enhanced cDNA synthesis efficiency, and no RNase H activity. The enzyme can synthesize cDNA in the range of 42-65°C and complete the reverse transcription reaction in 15 min.
- This kit removes residual genomic residues from the template while the reverse transcription reaction is performed, all in one reaction (no need for cross-exon primer design).
- The proprietary thermosensitive DNase is 30-fold more active than DNase I and acts only on dsDNA and is susceptible to inactivation under high temperature conditions.
- Synthesized single-stranded cDNA products can be directly used for subsequent PCR or qPCR reactions.

### Storage

- Store at -20°C for up to 12 months.
- Avoid repeated freeze-thaw.

### Kit Components

<b>5X cDNA Supermix</b>	200 µL
<b>DNase Enzyme</b>	50 µL
<b>Nuclease Free H<sub>2</sub>O</b>	1 mL
<b>Control Mix (NO RT)</b>	20 µL

### Protocol – Bi2M-SSRT3

1. **RNA Preparation** – prepare the following reaction mix on ice:

Component	Volume
<b>Nuclease Free H<sub>2</sub>O</b>	Top up to 15 µL
<b>Total RNA</b>	10 ng – 5 µg

2. Gently mix and centrifuge. Incubate at 65°C for 5 min and place back on ice.
3. **gDNA Removal & Reverse Transcription** – add the following reaction mix to the samples from above:

Component	Volume
<b>DNase Enzyme</b>	1 µL
<b>5X cDNA Supermix</b>	4 µL

**Note:** If a negative control is needed, substitute equal volume of **5X cDNA SuperMix** with solution from tube labelled **Control Mix (no RT)**. The Control Mix contains all the reagents in the 5X cDNA Supermix tube except for the reverse transcriptase enzyme.

4. Gently mix and centrifuge. Incubate at (Step 1) 25°C for 5 min, (Step 2) 42°C for 15-30 min, (Step 3) 85°C for 30 sec, and place back on ice.

**The reverse transcription products can be stored at -20°C for a short time. If long-term storage is needed, it is recommended to store samples at -80°C and avoid repeated freeze-thaw cycles.**

#### NOTES:

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