

Catalog No.: G8988
Product Name: miRNA All-in-One cDNA Synthesis Kit
Size: 20 rxns

Kit Components:	2X miRNA cDNA Synthesis SuperMix	200µl
	Enzyme Mix	40µl
	Nuclease-free H ₂ O:	1000µl
	Universal miRNA qPCR Reverse Primer	150µl @10µM

Special Note: for qPCR with the cDNA synthesized using this kit, the Universal miRNA qPCR Reverse Primer has to be used together with the specific forward primers.

Description: **The miRNA All-In-One cDNA Synthesis Kit** is a complete system for efficient synthesis of first strand cDNA of miRNA from total RNA templates. This optimized kit comes with two components, the 2X miRNA cDNA Synthesis SuperMix and Enzyme Mix, enabling a hassle-free set-ups with minimal potential for contamination and more quantitatively accuracy due to significantly reduced pipetting or small volume reagents and samples. The kit contains all miRNA synthesis-required reagents including Poly(A) Polymerase and Reverse Transcriptase, a unique **miRNA Oligo d(T) adapter** that anneals to the A-tailed miRNA template, and RNaseOFF Ribonuclease Inhibitor to protect RNA template from degradation.

Advantages:

- Convenience: one tube, one reaction, one pipetting for RT reagents.
- Accuracy: ensures sample to sample consistency.
- Capacity: capable for any complex RNA templates.
- Flexibility: large RNA sample or reaction volume.
- Sensitivity: work as well at low concentration of RNA samples.

Storage: Store at -20°C.

Protocol:

1. Thaw RNA sample and all reagents on ice. Mix each solution completely but gently.
2. Assemble the following components in a tube on ice:

Components	Volume
2X miRNA cDNA Synthesis SuperMix	10µl
RNA template	1-8µl (200ng miRNA or 2µg total RNA)
Enzyme Mix	2µl
Nuclease-free H ₂ O:	Up to total volume 20µl

3. Mix well but gently and briefly centrifuge the tube at high speed.
4. Incubate the mixture at 37°C for 30 minutes, followed by 15 minutes incubation at 50°C.
5. Stop the reaction by heating it at 85°C for 10 min. Chill the tube on ice.
6. Collect the mixture by briefly centrifugation at high speed. The cDNA is now ready for immediate downstream applications or leave at -20°C for long-term storage.

Extra Notes:

- Both small RNA and total RNA can be used for first cDNA synthesis, although small RNA may give higher yields and improved purity for the synthesized products.
- RNA samples should be free of genomic DNA contamination.
- For qPCR using the synthesized cDNA with this kit, the **Universal miRNA qPCR Reverse Primer** has to be used, with your specific forward miRNA primers.