



# miRNA Solutions



TRANSGEN

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## miRNA cDNA Synthesis

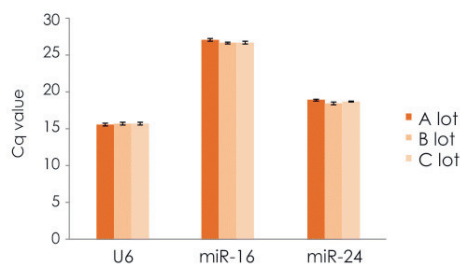
# TransScript® miRNA First-Strand cDNA Synthesis SuperMix (AT351)

- Optimized buffer for poly(A) polymerase and reverse transcriptase in optimized buffer, ensuring overall efficiency.
- Poly(A) tailing and cDNA synthesis in one reaction.
- Applicable for miRNA detection.



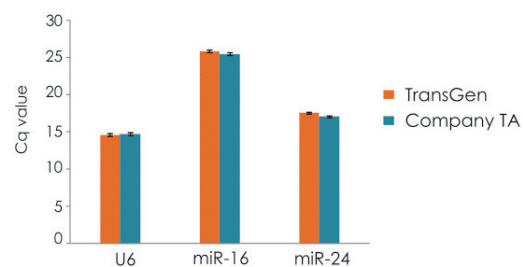
### Data

#### Lot-to-lot consistency



miRNA extracted from human plasma was used as a template for qRT-PCR using different lots of reagents from TransGen. Lot-to-lot consistency was assessed based on variations in Cq values.

#### High reverse transcription efficiency



qRT-PCR was performed for miRNA extracted from human plasma using reagents from TransGen and Company A respectively.

### References

- Huang R, Jia B, Su D, et al. Plant exosomes fused with engineered mesenchymal stem cell-derived nanovesicles for synergistic therapy of autoimmune skin disorders[J]. *Journal of Extracellular Vesicles*, 2023.(IF 14.5)
- Zhao J, Zeng X, Liu J, et al. Marasmius androsaceus mitigates depression-exacerbated intestinal radiation injuries through reprogramming hippocampal miRNA expression[J]. *Biomedicine & Pharmacotherapy*, 2023.(IF 7.5)
- He X, Yang L, Huang R, et al. Activation of CB2R with AM1241 ameliorates neurodegeneration via the Xist/miR-133b-3p/Pitx3 axis[J]. *Journal of cellular physiology*, 2020.(IF 4.0)

## miRNA cDNA Synthesis and Detection

# TransScript® Green miRNA Two-Step qRT-PCR SuperMix (AQ202)

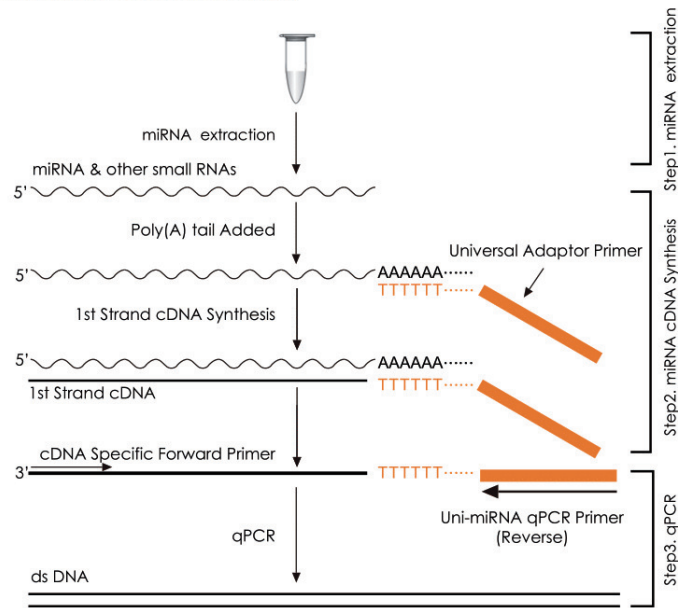
- Optimal ratio of Poly(A) polymerase to reverse transcriptase and optimized reaction buffer, so as to ensure high transcription efficiency of miRNA.
- Poly(A) tailing and cDNA synthesis in one reaction.
- High amplification efficiency, specificity and sensitivity ensured by *PerfectStart*® Green qPCR SuperMix, leading to accurate data.
- Passive reference dyes compatible with different qPCR instruments (normalize the fluorescent signals between reactions).



### References

- Yang Y, Lin Z, Han Z, et al. miR-539 activates the SAPK/JNK signaling pathway to promote ferroptosis in colorectal cancer by directly targeting TIPE[J]. *Cell Death Discovery*, 2021.(IF 5.24)
- Hong Y H, Meng J, He X L, et al. Overexpression of MiR482c in tomato induces enhanced susceptibility to late blight[J]. *Cells*, 2019.(IF 5.65)

## Schematic Diagram of miRNA Extraction and Detection



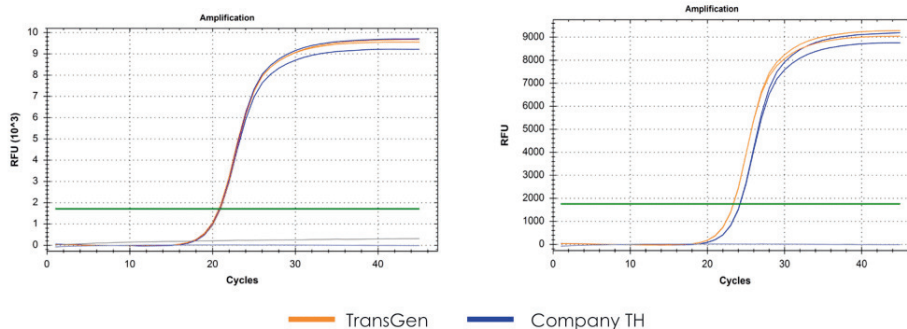
## miRNA Extraction

### EasyPure<sup>®</sup> miRNA Kit (ER601)

- Suitable for isolating miRNA and total RNA from cells, tissues, fresh blood and exosomes.
- By adjusting the volume of ethanol added to the aqueous phase, miRNA or total RNA can be obtained.
  1. Large RNAs (28S rRNA, 18S rRNA, mRNA) adsorbed by the RNA spin column, small RNA in flow-through (containing RNAs less than 200 nt, such as miRNA, siRNA, shRNA, snRNA, etc.) is adsorbed by the miRNA spin column.
  2. Total RNA (containing RNA less than 200 nt) is adsorbed by the RNA spin column.
- Strong pyrolysis capability, high yield and wide range of applications.



### Data



miRNA was extracted using reagents from TransGen and Company TH respectively. The extracted miRNA was used as a template for RT-qPCR.

### References

- Wang X, Li X, Li J, et al. Mechanical loading stimulates bone angiogenesis through enhancing type H vessel formation and downregulating exosomal miR-214-3p from bone marrow-derived mesenchymal stem cells[J]. *The FASEB Journal*, 2021. (IF 4.4)
- He X, Yang L, Huang R, et al. Activation of CB2R with AM1241 ameliorates neurodegeneration via the Xist/miR-133b-3p/Pitx3 axis[J]. *Journal of cellular physiology*, 2020.(IF 5.54)

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