

Product Datasheet

Vazyme - miRNA Unimodal SYBR qPCR Master Mix (MQ102-00)

Catalog Number MQ102-00

Category Tools

Description This product is a specialized premix designed for miRNA quantification using the SYBR Green I fluorescence method. The premix is dyed blue for convenient and accurate pipetting. Due to the short length of miRNA sequences and the high similarity often found within miRNA families, achieving high specificity is critical for accurate quantification. The core enzyme of this product has been selectively developed through the BioSmart platform. It features exceptional specificity, strong 3'-end mismatch recognition, and the ability to extend the shortest possible base sequences. Combined with high-sealing dual-species antibodies, the enzyme forms a hot-start Taq polymerase that ensures strict activity suppression at 55°C. Paired with an optimized Buffer specifically designed for qPCR, this product delivers high sensitivity and specificity for miRNA quantification. This premix also includes a specially formulated ROX Passive Reference Dye, compatible with a wide range of qPCR instruments. No additional adjustments to ROX concentration are required across different platforms. Simply add primers and templates to the reaction system to begin amplification. In addition, this product provides universal U6 internal reference primers for human, rat, and mouse samples, enabling the generation of excellent standard curves over a broad dynamic range. For optimal performance, we recommend using this premix with themiRNA 1st Strand cDNA Synthesis Kit (by stem-loop) (Vazyme #MR101) or themiRNA 1st Strand cDNA Synthesis Kit (by tailing A) (Vazyme #MR201).

Usage Notes Restricted to UK and Ireland's customers ONLY

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Storage

Store at -30 ~ -15°C and protect from light. Ship at $\leq 0^{\circ}\text{C}$. After thawing, Master Mix can be stably stored for 6 months at 2 ~ 8 °C protected from light.

Performance Efficient Workflow The Vazyme #MQ102 kit is equipped with miRNA stem-loop primer design software and universal downstream stem-loop primers. Additionally, it includes U6 reference primers (forward primer and reverse primer) compatible with human, rat, and mouse samples. These features ensure accurate standard curves across a wide quantification range.

High Sensitivity Using RNA extracted from 293T cells diluted across six gradients (1 pg-100 ng) as templates, reverse transcription was performed with the miRNA 1st Strand cDNA Synthesis Kit (by stem-loop) (Vazyme #MR101). The resulting cDNA was used to quantify hsa-miR-21-5p expression with Vazyme #MQ102. Results demonstrated that Vazyme #MQ102 reliably detects target miRNAs at picogram levels of total RNA and produces accurate standard curves over a wide quantification range.

Exceptional Specificity MicroRNAs are short sequences, and members of the same family often share highly similar sequences, sometimes differing by only a single nucleotide. This makes specificity critical for accurate miRNA quantification. The Vazyme #MQ102 utilizes a dual-antibody-enclosed core enzyme and an optimized buffer system, enabling precise discrimination of single-nucleotide differences. Its non-specific recognition rate is below 5%, ensuring highly specific quantification.

Background

Only available for the UK and Republic of Ireland

Note

For research use only

Expiration Date

12 months from date of receipt.



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