Product Datasheet

Vazyme - SupRealQ Ultra Hunter SYBR qPCR Master Mix (U+) (Q713-02)

Catalog Number	Q713-02
Category	Tools
Description	ThisproductisaspecializedpremixforqPCR reactionsusing the SYBR GreenIfluorescence method, with a purple color to facilitate sample loading. The core enzyme is a Taq polymerase selectedthroughBioSmartplatform-directedscreening,featuringstrong 3' end mismatch recognition and high specificity. It is combined with high-closure dual-species antibodies to form a hot-start Taq enzyme, which maintainsstrict closure at 55°C. Paired with an optimally formulated buffer for qPCR, it enables precise detection and efficient amplification of target genes, even with low template amountsor low-expression genes. The reagent includes a dUTP/UDG contamination prevention system that works at room temperature, preventing aerosol contamination and ensuring the accuracy of qPCR results. Additionally, this product contains a special ROX Passive Reference Dye, making it compatible with a wide range of qPCR instruments. No need to adjust the ROX concentration for different instruments-simply add primers and templates during reaction setup to begin amplification.
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 ≤0°C. Performance C ompatibility with Complex Samples Through the BioSmart platform, our core enzyme is screened for high amplification performance and paired with a patented dual-species antibody blocking technology. This combination ensures stable amplification of complex templates, reducing the need for repeated system adjustments and enhancing researchers' experimental efficiency. a. Reliable Detection of Relatively Low-Abundance Genes Using SupRealQ Ultra Hunter SYBR qPCR Master Mix (U+) (Vazyme #Q713), qPCR reactions were performed on 293T cDNA for various genes under identical conditions. Certain genes exhibited delayed C T values compared to others (as shown for Gene 1, Gene 2, and Gene 3 in the graph below), indicating their classification as relatively low-abundance genes. For Gene 3, amplification was carried out using Vazyme #Q713 and a competitor's dye-based qPCR reagent (Supplier A). Results demonstrated that Vazyme #Q713 outperformed Supplier A in sensitivity for low-abundance genes , while maintaining high specificity for amplification products. b. Amplification of Moderately Degraded Samples RNA extracted from the pancreas tissue of Litopenaeus vannamei was subjected to gel electrophoresis, which showed no distinct bands, indicating sample degradation. The degraded RNA was reverse-transcribed into cDNA, which was subsequently diluted in a 2-fold series across three gradients. Amplification of the shrimp gene was performed using Vazyme #Q713 and Supplier A's dye-based qPCR reagent on the ABI QuantStudio 3 system. The results showed that Vazyme #Q713°Chieved stable amplification of degraded samples , with amplification efficiency meeting the MIQE (Minimum Information for Publication of Quantitative Real-Time PCR Experiments) guideline standard of 90-110%. c. Amplification of Genes with High and Low GC Content Using 293T gDNA as the template, Vazyme #Q713 and Supplier A's dye-based qPCR reagent were used to amplify Gene 4 and Gene 5, representing high and low GC content, respectively, on the ABI QuantStudio 3 system. The results demonstrated that Vazyme #Q713 exhibited superior sensitivity and specificity compared to Supplier A for both high- and low-GC content genes. Wide Linear Range Mouse liver cDNA was subjected to a 10-fold serial dilution, and qPCR amplification of mouse genes was performed using Vazyme #Q713 and Supplier A's dye-based qPCR reagent on the ABI QuantStudio 3 system. The results showed that Vazyme #Q713 exhibited amplification efficiency within the 90-110% range deemed reliable by MIQE guidelines across a wide linear range, outperforming Supplier A. Efficient Anti-Contamination Vazyme #Q713 incorporates a dUTP/Heat-labile UDG anti-contamination system, which effectively removes contaminants from the reaction mixture at room temperature. As the reaction temperature increases to 50-55°C, Heat-labile UDG rapidly inactivates, preserving the integrity of cDNA and ensuring that detection sensitivity remains unaffected. To test the contaminant removal efficiency, 60 pg and 600 pg of U-containing templates were added to the reaction mixture. The results showed that Vazyme #Q713°Chieved a contaminant removal efficiency of over 99.99% , effectively ensuring the accuracy of experimental results.

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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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