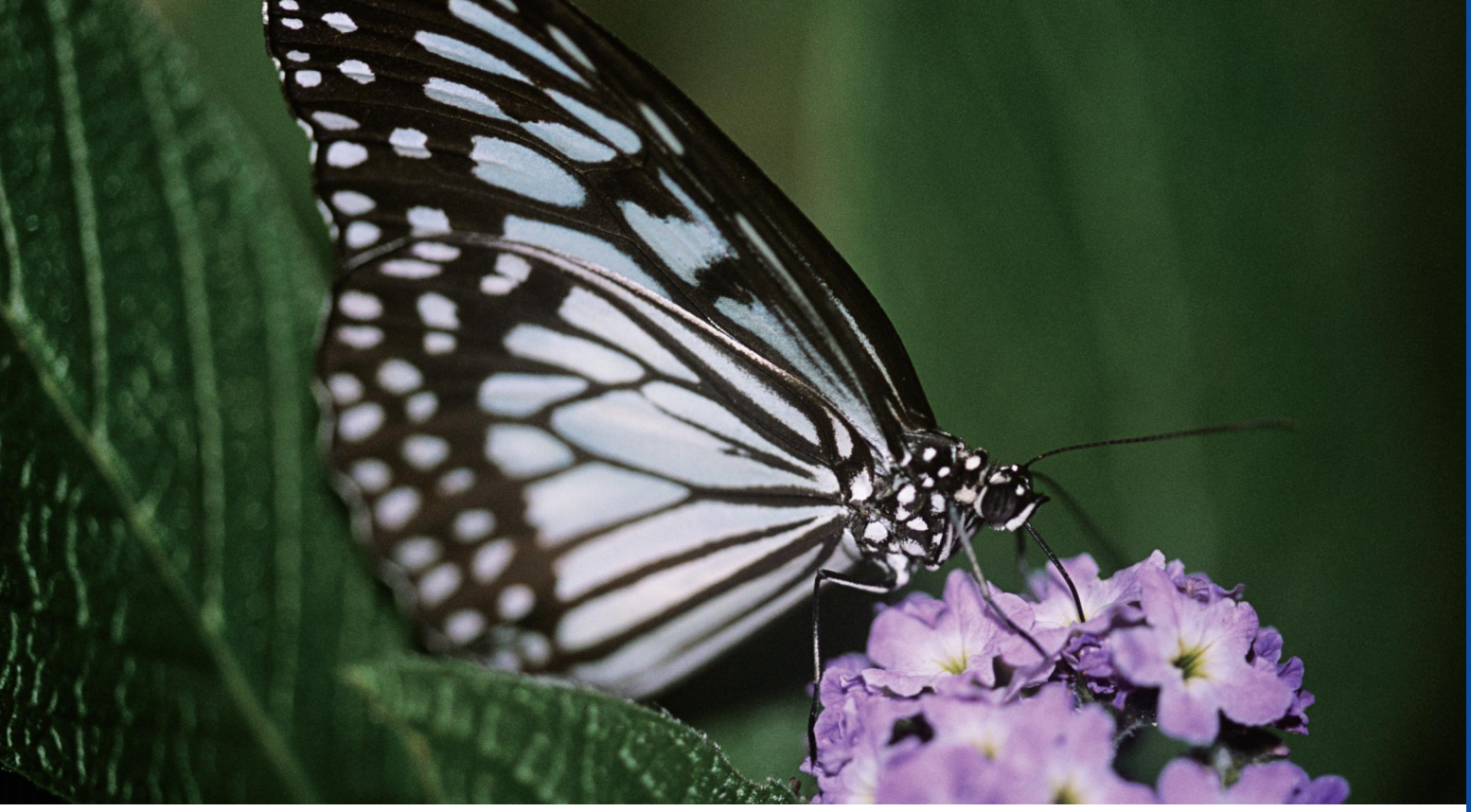


SupRealQ Ultra Hunter SYBR qPCR Master Mix (U+)

SupRealQ Ultra Hunter SYBR qPCR Master Mix (U+)	500/2,500/500 rxns (20 μl/rxn)	Q713-02/03/04

Precision, stability, reproducibility—results you can trust!

This product is a specialized premix for qPCR reactions using the SYBR Green I fluorescence method, with a purple color to facilitate sample loading. The core enzyme is a Taq polymerase selected through BioSmart platform-directed screening, featuring strong 3' end mismatch recognition and high specificity. It is combined with high-closure dual-species antibodies to form a hot-start Taq enzyme, which maintains strict 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 amounts or 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.

- **Low Expression, High Precision**
  Designed for low-abundance targets, it captures low-template, low-concentration, and low-input signals with superior stability, outperforming similar products.
- **Effortless Handling of Complex Templates**
  Handles degraded samples and high-GC templates with ease, delivering reliable results even in challenging experimental scenarios.
- **Smart Anti-Contamination, Worry-Free Experiments**
  Equipped with a dUTP/Heat-labile UDG system, it effectively eliminates contaminants at room temperature, ensuring cleaner and more reliable experiments.
- **Pre-Mixed Technology, Unmatched Stability**
  Features a fully pre-mixed formula, maintaining consistent performance even after mixing with primers and templates and storing for three days, offering unparalleled flexibility and stability.

Vazyme
Tel: +86 400-168-5000
Email: support@vazyme.com

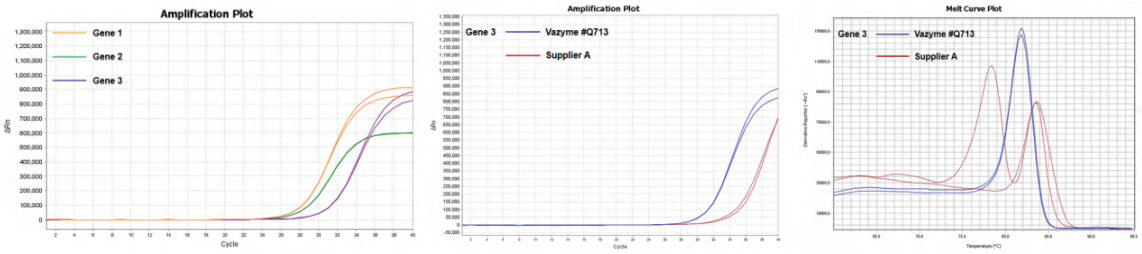
SupRealQ Ultra Hunter SYBR qPCR Master Mix (U+)

Compatibility with Complex Samples

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 CT 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.

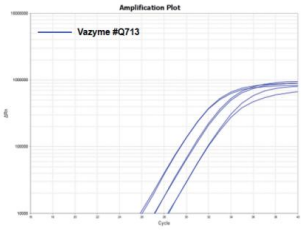
For Gene 3, amplification was carried out using Vazyme #Q713 and a competitor's dye-based qPCR reagent (Supplier A). Results demonstrated that Vazyme #Q713 outperformed Supplier A in sensitivity for low-abundance genes, while maintaining high specificity for amplification products.



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 achieved 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%.

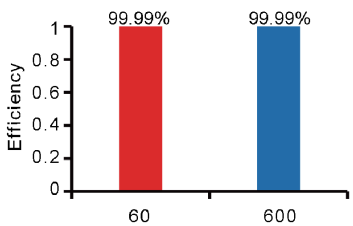


C_T Value & Amplification Efficiency	Vazyme #Q713	Supplier A
Template Stock (Undiluted)	28.72	29.62
Template Stock (2× Diluted)	29.82	30.35
Template Stock (4× Diluted)	30.76	31.25
R^2	0.998	0.997
E	**97.8%**	**133.5%**

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 achieved a contaminant removal efficiency of over 99.99%, effectively ensuring the accuracy of experimental results.



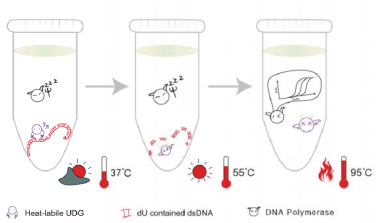


Diagram of dUTP/Heat-labile UDG working principle

Vazyme Online

For more information about Vazyme products and services, please visit our website www.vazyme.com