

TOROGreen® 5G qPCR Premix 2.0



Description

TOROGreen® 5G qPCR Premix 2.0 (QST-200) is an 2× master mix for intercalator-based realtime PCR with SYBRGreen I, which contains all components except for the primer. TOROIVD® 5G DNA polymerase, a mutant hot-start Tth DNA polymerase modified by antibodies, allows high specificity and sensitivity for high-speed PCR reactions. The improved polymerase and reaction mixture combination also enables a high resistance to PCR inhibitors. ROX is added into the premix and can be applied to the qPCR cyclers that require a passive reference dye. The premix is suitable for high-speed PCR and enables accurate detection and quantification of targets, making it possible to obtain highly reproducible and reliable realtime PCR results over a wide dynamic range.

Feature

- **Rapid and highly sensitive**

- This premix can achieve the rapid and highly sensitive quantification of a low-copy targets and be suitable for the quantification of DNA viruses or cDNA at a low level.

- **Room-temperature stable**

- The specially optimized PCR buffer make the mix very stable at room temperature. Therefore, the performance is not easily decrease during storing and shipping.

- **Inhibitor tolerant**

- The unique proprietary formulation of this kit allows robust performance even in the presence of substances that can normally inhibit PCR, such as heparin, hematin, or EDTA.

- **Wide dynamic range**

- The master mix demonstrates excellent reproducibility over a wide dynamic range and provides efficient amplification over 8 logs of sample input.

Highly sensitive

TOROGreen® 5G qPCR Premix 2.0 (QST-200) can achieve the highly sensitive quantification of a low-copy targets with probes and be suitable for the quantification of DNA viruses or cDNA at a low level. Sensitivity testing was performed on eight 10×dilutes of template. Figure 1 validates the sensitivity of QST-200, showing that the QST-200 (red line) detects as low as 5 copies of target, which lower than QST-100 (green line).

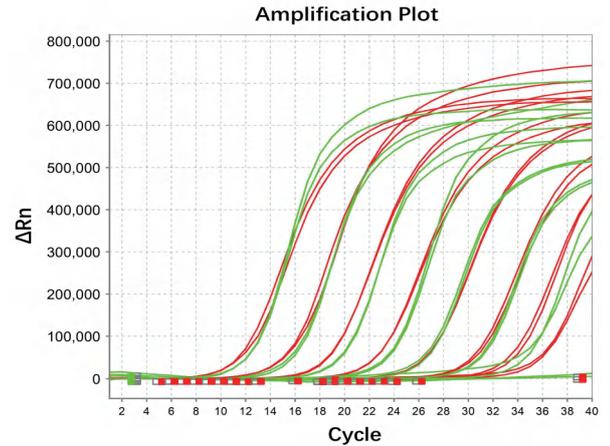


Figure 1. High sensitivity. qPCR of 10-fold serial dilutions (plasmid copies from 5×10^7 to 5 in sequence) of a plasmid with the B646L gene were performed using primers (from WOH) specific to African swine fever virus (VP72 protein) with TOROGreen® 5G qPCR Premix 2.0 (QST-200).

Room-temperature stable

Extensive stability testing was performed on three 10×dilutes of the template. TOROGreen® 5G qPCR Premix 2.0 (QST-200) were sealed and left at 37°C for 7 days, and all results calculated and collated. From the amplification plot (Fig. 2), it shows that the QST-200 stored at 37°C and at -20°C have the same curve, and the Ct value is basically similar. QST-200 has extremely high stability within a wide range of template concentration. Therefore, the performance is not easily decrease during storing and shipping.

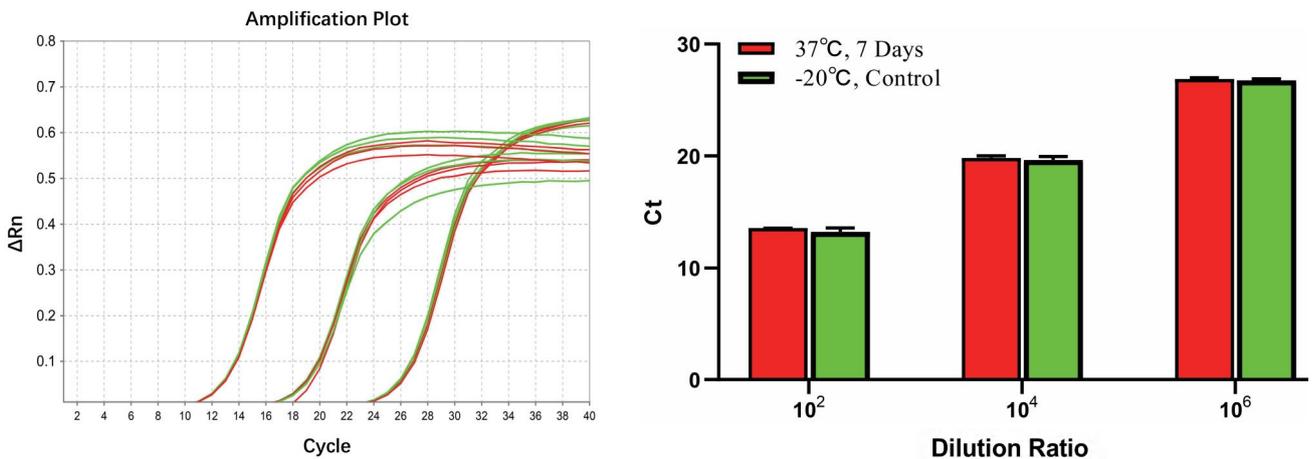


Figure 2. High stability. Real-time PCR was performed using a plasmid with the B646L gene were performed using primers (from WOH) specific to African swine fever virus (VP72 protein). TOROGreen® 5G qPCR Premix 2.0 (QST-200) stored at 37°C (red line) and at -20°C (green line) have the same curve, and the Ct value is basically similar.

Inhibitor tolerant

The unique proprietary formulation of this kit allows robust performance even in the presence of substances that can normally inhibit PCR, such as heparin, hematin. Two inhibitors of RT-PCR (EDTA-K2 and heparin) were added to real-time PCR reactions to assess the inhibitor tolerance of TOROGreen® 5G qPCR Premix 2.0 (QST-200). Figure 3 shows the enhanced performance of TOROGreen® 5G qPCR Premix 2.0 (QST-200) in the presence of two common inhibitors, in comparison with other suppliers' qPCR Premix.

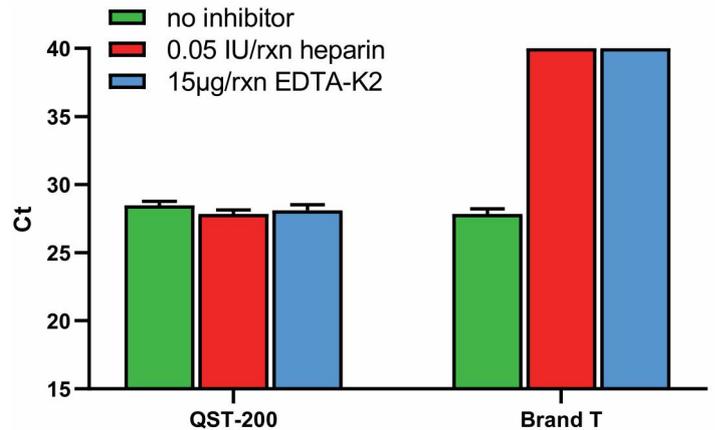


Figure 3. Inhibitor tolerant. Two inhibitors (EDTA-K2 and heparin) were added to qRT-PCR reactions to assess the magnitude of Ct shift caused by these inhibitors. Ct values for reactions without and with inhibitors are shown.

Wide dynamic range

TOROGreen® 5G qPCR Premix 2.0 (QST-200) is able to accommodate a wide range of input DNA/cDNA without compromising PCR efficiency. The VP72 protein gene was amplified from a 10-fold dilution series of a plasmid with the B646L gene were performed using primers (from WOA) specific to African swine fever virus (VP72 protein) to demonstrate the superior range and amplification efficiency of the QST-200. The amplification plot and standard curve (Fig. 4) show that TOROGreen® 5G qPCR Premix 2.0 (QST-200) displaying superior dynamic range and efficiency.

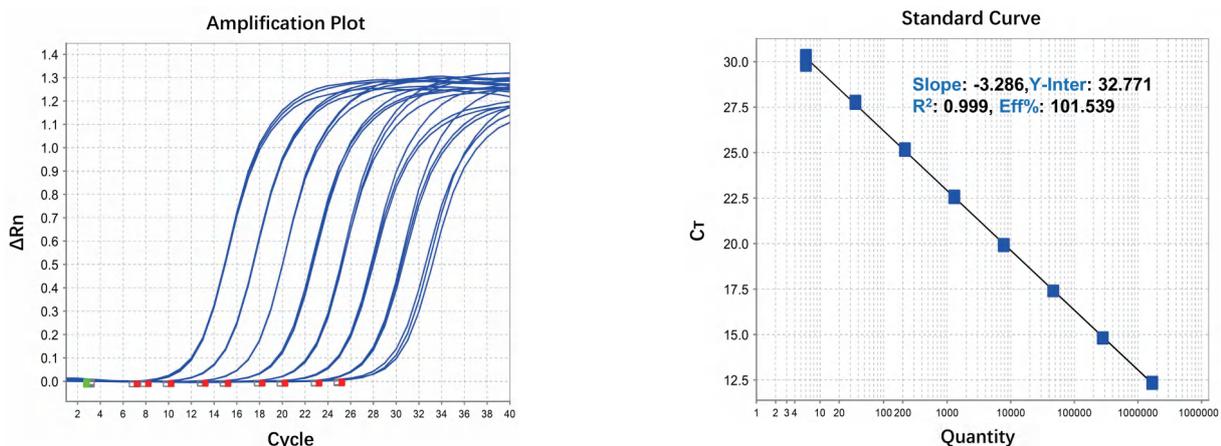


Figure 4. Wide dynamic range. Real-time quantitative PCR of 10-fold serial dilutions of a plasmid with the B646L gene were performed using primers (from WOA) specific to African swine fever virus (VP72 protein) with TOROIVD® 5G qPCR Premix with UNG(QPT-200U). The amplification plot and standard curve show that QPT-200U displaying superior dynamic range and efficiency.



Ordering information

Catalog Number	Product Name	Unit Size
QST-200	TOROGreen® 5G qPCR Premix 2.0	1.25 mL ×8 tubes/kit

References

[1] Bustin SA, Benes V, Garson JA, etc,al. The MIQE guidelines: minimum information for publication of quantitative real-time PCR experiments. ClinChem.2009,55(4):611-22.

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