TOROIVD®
5G qPCR Premix with UNG

Description

TOROIVD® 5G qPCR Premix with UNG(QPT-200U) is a fast 2×master mix that provides for sensitive, reproducible detection up to five DNA targets. Particularly useful for virus detection with TaqMan® probe assays, this premix includes TOROIVD® 5G DNA polymerase, dNTPs, dUTP, UNG and reaction buffer. The improved enzymes and reaction mixture combination also enables a high resistance to PCR inhibitors and high stability in room temperature. The premix is suitable for high-throughput analysis and can reduce the risk of cross-contamination with UNG. The premix is suitable for high-speed qPCR and enables accurate detection and quantification of targets, making it possible to obtain highly reproducible and reliable real-time 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 with probes and be suitable for the quantification of DNA viruses or cDNA at a low level.
- **Wide dynamic range**
  — This premix has been optimized to provide high specificity and dynamic range for use with DNA targets. This input flexibility can help streamline the number of different workflows in your lab to improve efficiency.
- **Optimized for multiplexing**
  — This premix has been validated for multiplexing up to five targets simultaneously, allowing for additional targets and/or controls to be run simultaneously for efficiency or quality control purposes.
- **Avoid Contamination**
  — This premix contains dUTP and UNG in the reaction buffer. The crossed contamination caused by PCR product can be removed so that the rate of false-positive detection can be reduced.
- **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.

Highly sensitive

TOROIVD® 5G qPCR Premix with UNG(QPT-200U) can achieve 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. qPCR of 10-fold serial dilutions (Red, orange, yellow, green, green, blue and purple line represent the plasmid copies from 3.9×10^6 to 3.9 in sequence) of a plasmid with the B646L gene were performed using primers (from WOAH) specific to African swine fever virus (VP72 protein) with TOROIVD® 5G qPCR Premix with UNG.

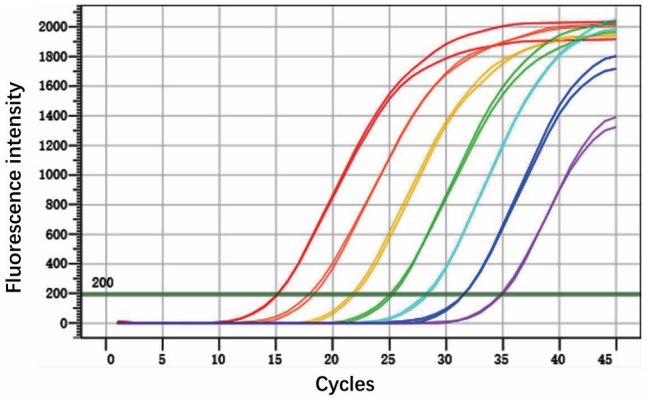

Figure 1. High sensitivity. qPCR of 10-fold serial dilutions (Red, orange, yellow, green, green, blue and purple line represent the plasmid copies from 3.9×10^6 to 3.9 in sequence) of a plasmid with the B646L gene were performed using primers (from WOAH) specific to African swine fever virus (VP72 protein) with TOROIVD® 5G qPCR Premix with UNG.

Wide dynamic range

TOROIVD® 5G qPCR Premix with UNG(QPT-200U) is able to accommodate a wide range of input DNA/cDNA without compromising PCR efficiency. The Kanamycin resistance gene was amplified from a 10-fold dilution series of a plasmid with the B646L gene were performed using primers (from WOAH) specific to African swine fever virus (VP72 protein) to demonstrate the superior range and amplification efficiency of the QPT-200U. The amplification plot and standard curve (Fig. 2) show that QPT-200U displaying superior dynamic range and efficiency.

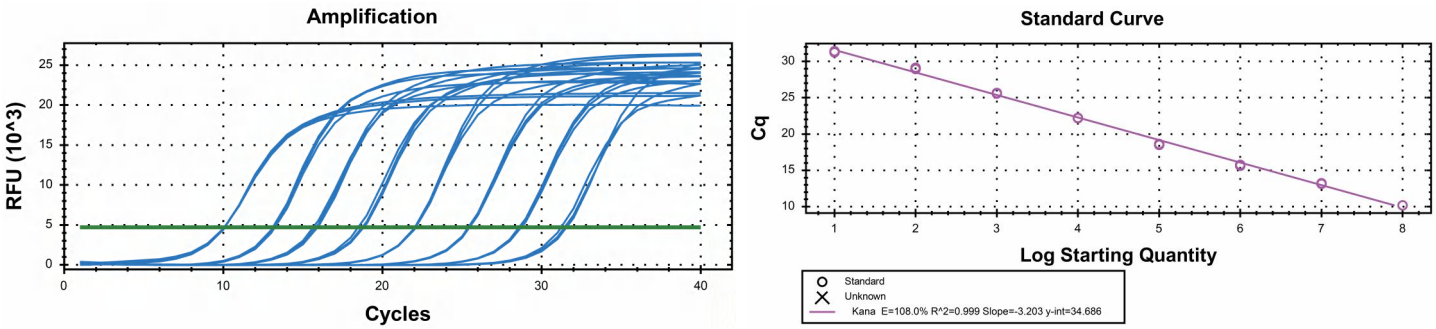

Figure 2. Wide dynamic range. Real-time quantitative PCR of 10-fold serial dilutions of a plasmid with the B646L gene were performed using primers (from WOAH) specific to African swine fever virus (VP72 protein) with TOROIVD® 5G qPCR Premix with UNG(QPT-200U).The amplification plot and standard curve show that QPT-200U displaying superior dynamic range and efficiency.

Optimized for multiplexing

TOROIVD® 5G qPCR Premix with UNG(QPT-200U) has been validated for multiplexing up to five targets simultaneously, allowing for additional targets and/or controlsto be run simultaneously for efficiency or quality control purposes. Figure 3 shows results for the multiplexing assay of African swine fever virus VP72 gene (green line), African swine fever virus CD2v gene (blue line), African swine fever virus MGF360-14L gene (red line) and endogenous gene β-actin gene (brown line).

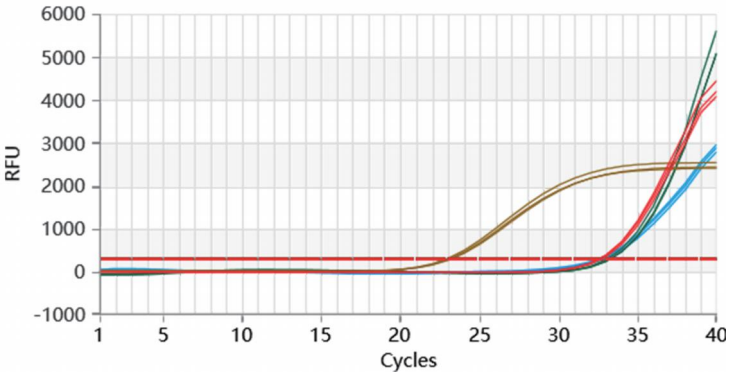

Figure 3. Optimized for multiplexing. TOROIVD® 5G qPCR Premix with UNG (QPT-200U) is optimized for multiplexing with exogenous or endogenous control assays. Results are shown for the multiplexing assay of African swine fever virus VP72 gene (green line), African swine fever virus CD2v gene (blue line), African swine fever virus MGF360-14L gene (red line) and endogenous gene β-actin gene (brown line).

Avoid Contamination

TOROIVD® 5G qPCR Premix with UNG(QPT-200U) contains dUTP and Uracil-DNA Glycosylase (UNG) in the reaction buffer. The crossed contamination caused by PCR product can be removed so that the rate of false-positive detection can be reduced. The amplification plot (Fig. 4) show that the PCR product with dUTP can be removed by 5G qPCR Premix with UNG (red line), but can not be removed by 5G qPCR Premix without UNG (green line).

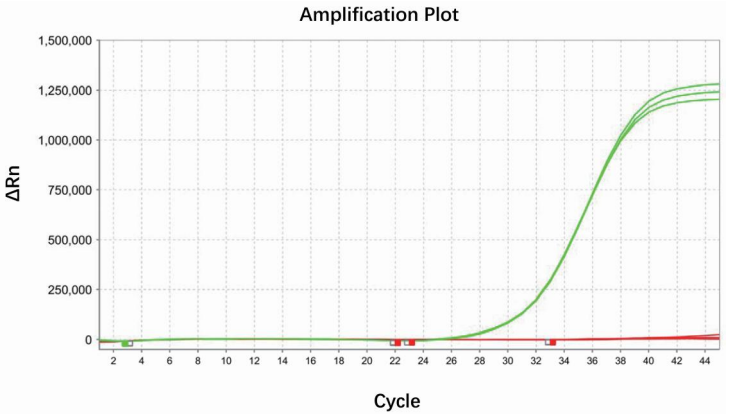

Figure 4. Avoid Contamination. Real-time quantitative PCR of the B646L gene template (Prepared by PCR) with dUTP were performed using primers (from WOAH) specific to African swine fever virus (VP72 protein) with TOROIVD® 5G qPCR Premix with UNG (QPT-200U) or without UNG. The amplification plot show that the PCR product with dUTP can be removed by 5G qPCR Premix with UNG (red line), but can not be removed by 5G qPCR Premix without UNG (green line).

Room-temperature stable

Extensive stability testing was performed on three 10×dilutes of the template. TOROIVD® 5G qPCR Premix with UNG (QPT-200U) were sealed and left at 37℃ for 15 days, and all results calculated and collated. From the amplification plot (Fig. 5), it shows that the QPT-200U stored at 37℃ and at -20℃ have the same curve, and the Ct value is basically similar. QPT-200U has extremely high stability within a wide range of template concentration.Therefore,the performance is not easily decrease during storing and shipping.

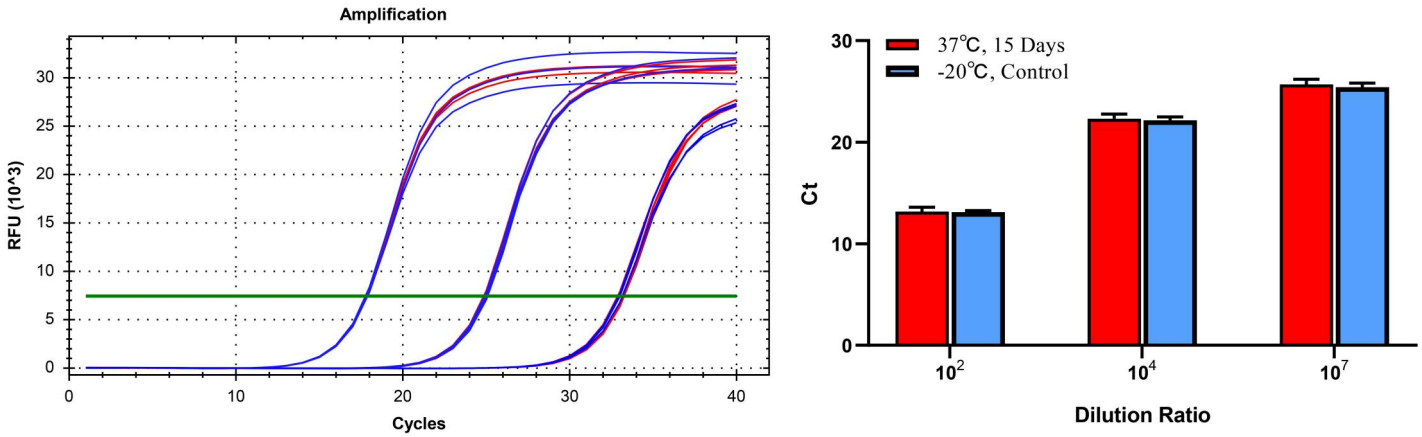

Figure 5. High stability. Real-time PCR was performed using a plasmid with the B646L gene were performed using primers (from WOAH) specific to African swine fever virus (VP72 protein). TOROIVD® 5G qPCR Premix with UNG(QPT-200U) stored at 37 ℃ (red line) and at -20 ℃ (blue line) have the same curve, and the Ct value is basically similar.

Ordering information

Catalog Number	Product Name	Unit Size
QPT-200U	TOROIVD® 5G qPCR Premix with UNG	1.25mL×4tubes

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.

Find out more at **www.toroivd.com**

For Research Use Only. Not for use in diagnostic procedures.
Head Office: Building #C1, 880 Jiang Yang Nan Road, Baoshan,Shanghai, China. 200439
Tel：+86-21-68030217 Website: www.toroivd.com
JiangShu Factory:Building #20, 888 Zhujiang Road, Life and Health Industrial Park,Rudong ,Jiangshu,China. 226400
Email: market@toroivd.com