Probe qPCR Master Mix

Description

Probe qPCR Master Mix(QPT-100) is a Taq DNA polymerase-based 2× master mix for real-time PCR, which contains all components, except for the primer and probe. This reagent is applicable in TaqMan assays or hybridization probe assays, in combination with each probe. This reagent can be used in glass capillary systems or passive reference system. Hot Start technology with anti-Taq DNA polymerase antibodies enables high specificity and reproducible amplification. The specially optimized PCR buffer make the mix more efficient amplification of GC-rich templates and more stable at room temperature.

Feature

- **High specificity**
  — high efficiency Taq antibodies and optimized PCR buffer greatly reduce the formation of primer dimers, so it easily meets MIQE requirements.
- **Room-temperature stable**
  — the performance is not easily decrease during storing and shipping.
- **Wide dynamic range**
  — the mix demonstrates excellent reproducibility over a wide dynamic range and provides efficient amplification over 8 logs of sample.

High specificity

Probe qPCR Master Mix(QPT-100) use an antibody-mediated hot-start mechanism to provide tight control over Taq enzyme activation and help prevent early activity of the polymerase at low temperatures that can lead to high RFU-levels in specific amplification(Fig. 1). High efficiency Taq antibodies and optimized PCR buffer greatly reduce the formation of primer dimers, so it easily meets MIQE requirements.

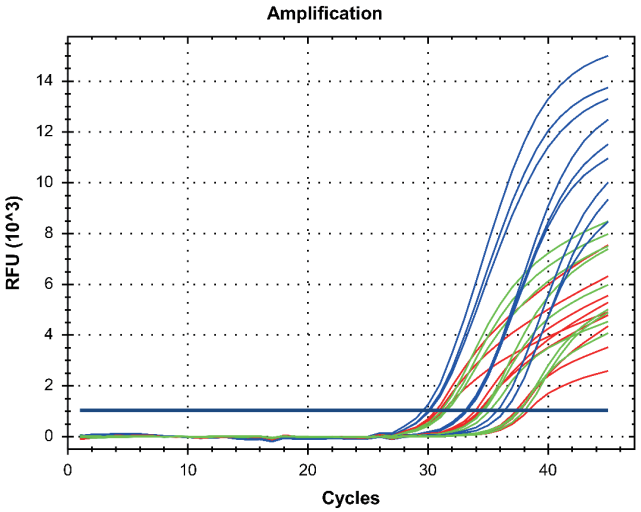

Figure 1. High specificity. Real-time PCR was performed using a plasmid with the B646L gene of African swine fever virus (VP72 protein) and primers&probe (from WOAH) targeting VP72 gen. QPCR mix of brands N (red line) and Y(green line) showed non-specific amplification caused by dimers, while Probe qPCR Master Mix(QPT-100, blue line) have very high RFU-levels in specific amplification.

Room-temperature stable

Extensive stability testing was performed on eight 10×dilutes of the template. Probe qPCR Master Mix(QPT-100) were sealed and left at 37℃ for 7days, and all results calculated and collated. From the amplification plot(Fig. 2), it shows that the QPT-100 stored at 37℃ and at -20℃ have the same curve, and the Ct value is basically similar. QPT-100 has extremely high stability within a wide range of template concentration.

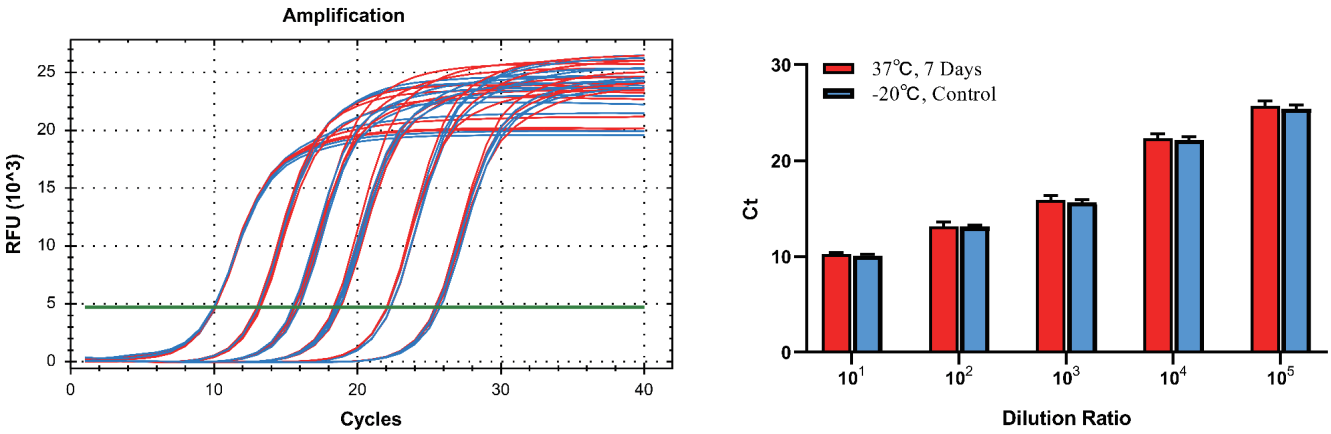

Figure 2. High stability. Real-time PCR was performed using pET28a plasmid with Bacillus badius phenylalanine dehydrogenase gene and primerss (F: AGGAAGCCGATGTGTTCGTT; R:TTCCGCTTGCTGGTACACTT) targeting pdh (phenylalanine dehydrogenase). Probe qPCR Master Mix(QPT-100) stored at 37 ℃ (red line) and at -20 ℃ (blue line) have the same curve, and the Ct value is basically similar.

Wide dynamic range

Probe qPCR Master Mix(QPT-100) 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 pET-28a plasmid to demonstrate the superior range and amplification efficiency of the QPT-100. The amplification plot and standard curve (Fig. 3) show that the Probe qPCR Master Mixdisplaying superior dynamic range and efficiency.

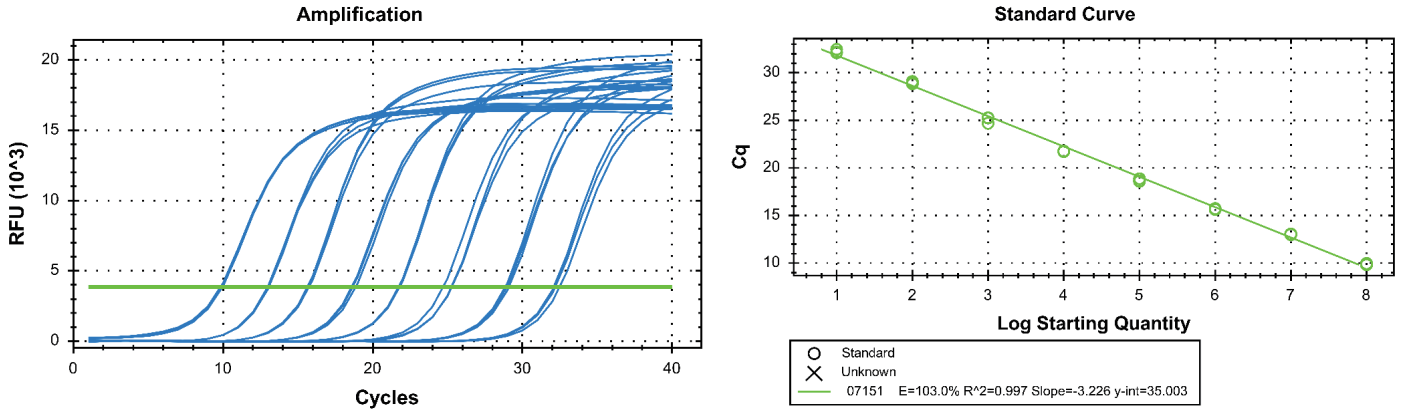

Figure 3. Wide dynamic range. Real-time quantitative PCR of 10-fold serial dilutions of pET-28a plasmid were performed using primers specific to the Kanamycin resistance gene with Probe qPCR Master Mix(QPT-100). The amplification plot and standard curve show that QPT-100 displaying superior dynamic range and efficiency.

Ordering information

Catalog Number	Product Name	Unit Size
QPT-100	Probe qPCR Master Mix	1 mL ×5 tubes

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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