

RT-qPCR Lyo-Ready Mix (#4501)

Introduction

RT-qPCR Lyo-Ready Mix is a universal one-step probe mix that is ready to be lyophilized to produce stable reagents at room temperature. Upon addition of target specific primers/probes and reverse transcriptase (RTase Lyo) to the mastermix, the mixture can be lyophilized directly, without the need to add additional excipients. RT-qPCR Lyo-Ready Mix allows robust, sensitive, and fast RT-qPCR. The mix uses state-of-the-art technologies with an antibody-regulated hot-start Taq polymerase and reverse transcriptase for efficient cDNA synthesis and real-time PCR amplification in a single reaction. RT-qPCR Lyo-Ready Mix is ideal for rapid detection and quantification of a variety of RNA templates, such as mRNA, viral RNA, and total RNA.

Lyophilization ready universal one-step probe mix

- Antibody-regulated hot-start Taq polymerase and reverse transcriptase
- Addition of target-specific primers and probes, and RTase Lyo
- Ready to be freeze-dried without any additional excipients

Methods

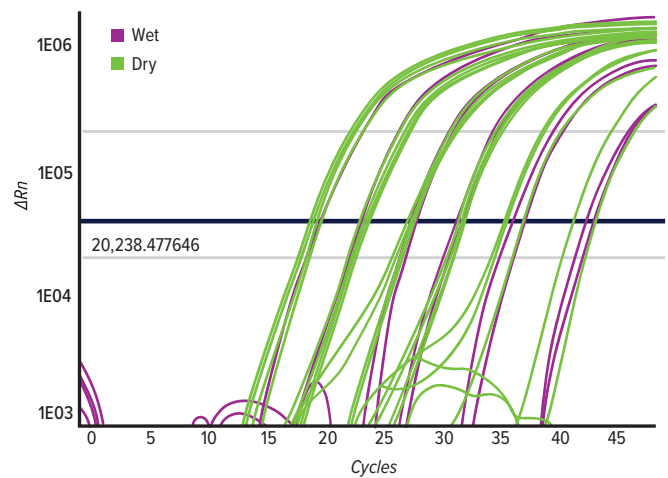
A) Rehydrated lyophilized RT-qPCR Lyo-Ready Mix was compared to the “wet” RT-qPCR Lyo-Ready Mix.

Human FLUAV RNA was used as a template at six concentrations, with three replicates at each concentration.

B) RT-qPCR Lyo-Ready Mix was compared to an alternative supplier. Three different serum sample quantities with three replicates at each concentration were analyzed with a multiplex of HAV, HBV, HCV and HEV viral targets.

Results

RT-qPCR Lyo-Ready Mix



Human FLUAV target

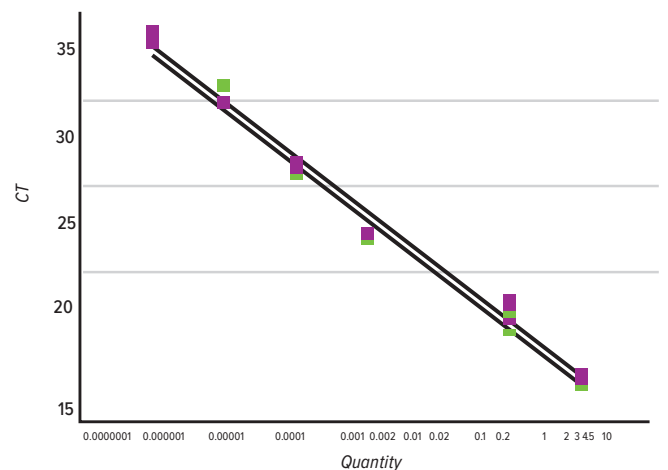
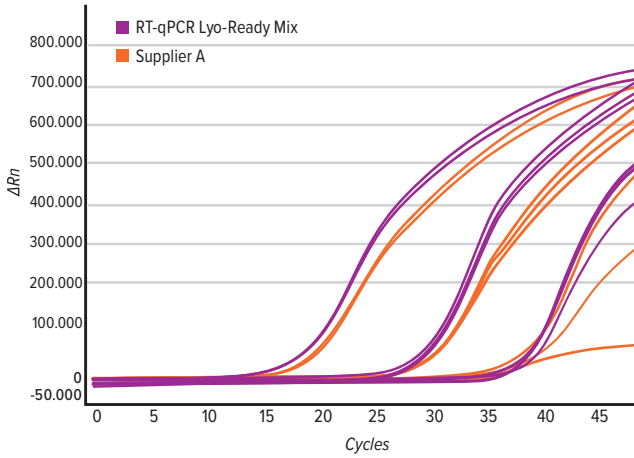


Figure 1. RT-qPCR amplification profiles and standard curve of human FLUAV target.

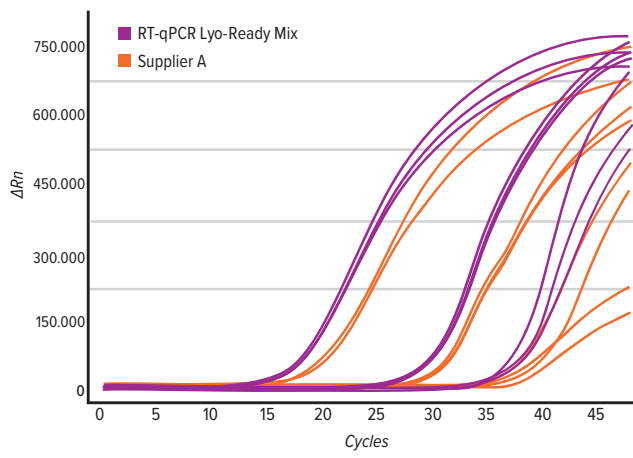
- green “wet” RT-qPCR Lyo-Ready Mix
- burgundy rehydrated lyophilized “dry” RT-qPCR Lyo-Ready Mix

Results

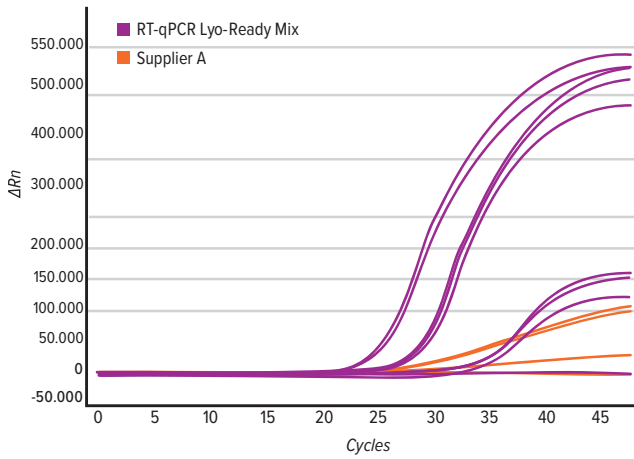
HAV viral targets



HEV viral targets



HAV viral targets



HBV viral targets

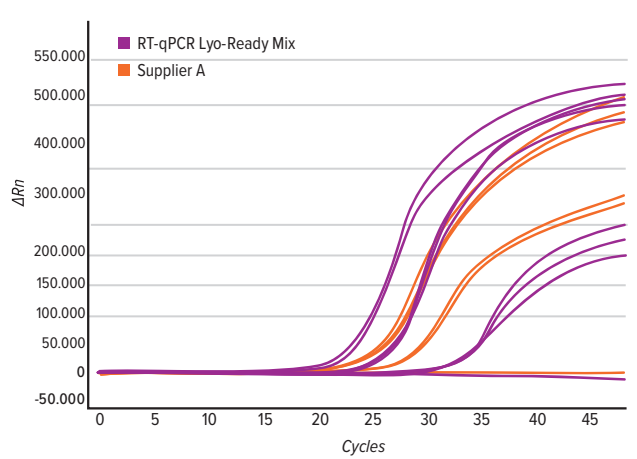


Figure 2. RT-qPCR amplification profiles of multiplexed human viral targets: (A) HAV, (B) HBV, (C) HCV and (D) HEV at three different serum sample quantities.

- **purple** RT-qPCR Lyo-Ready Mix
 - **orange** Supplier A

Conclusions

Enzyme activity was well preserved in RT-qPCR Lyo-Ready Mix. 100 % functional RT-qPCR activity was recovered upon rehydration of lyophilized product. Both mixes show equal relative activity and comparable reaction efficiencies (Figure 1).

RT-qPCR Lyo-Ready Mix is developed and optimized for detection of multiplexed viral targets direct from human patient samples. RT-qPCR Lyo-Ready Mix performed better than the alternative supplier in a multiplex reaction with a serum sample (Figure 2).