

Path-ID™ qPCR Master Mix

A Real-Time PCR Master Mix Optimized to Function in the Presence of PCR Inhibitors

Greater Confidence in Your Results

- Obtain accurate results—amplify in the presence of PCR inhibitors
- Amplify low-copy targets

Convenience and Speed

- Room temperature stability for flexible PCR setup
- Single-tube master mix reduces experimental variability and streamlines workflow
- Uses universal cycling conditions for TaqMan® Assays

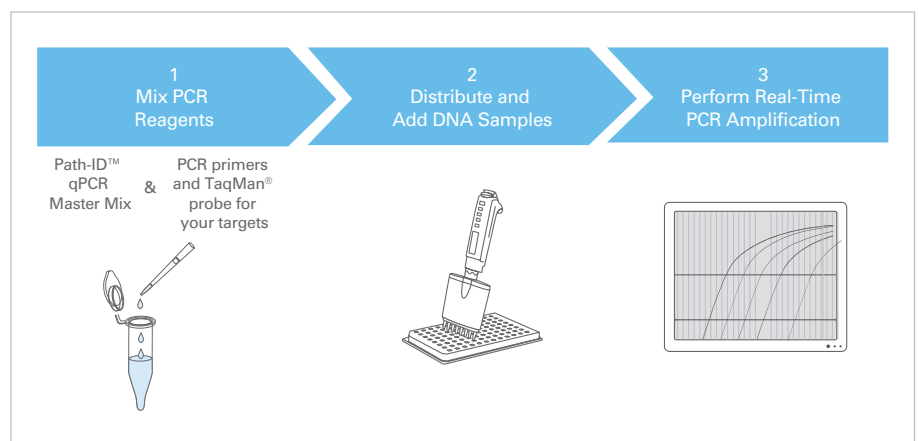


Figure 1. From Sample to Pathogen DNA Amplification.

Path-ID™ qPCR Master Mix is designed for the sensitive and robust amplification of animal pathogen DNA in the presence of polymerase inhibitors commonly found in agricultural samples. It provides highly sensitive, efficient amplification over 7 logs of DNA input.

Path-ID™ qPCR Master Mix is a convenient 2X mix that includes the following components:

- AmpliTaq Gold® DNA Polymerase, UP (Ultra Pure), a highly purified hot-start DNA polymerase that enables room temperature reaction setup and minimizes nonspecific PCR products

- Optimized buffers and dNTPs for enhanced sensitivity and functionality in the presence of PCR inhibitors

- ROX™ dye as an internal reference for normalization and precise data analysis

Any PCR primer/TaqMan® probe mixture compatible with your real-time PCR instrument can be used with the kit.

High Sensitivity and Wide Dynamic Range

In comparison with another commercially available mix, Path-ID™ qPCR Master Mix shows higher sensitivity across all dilutions of a viral vaccine target (Figure 2). The sensitivity of Path-ID™ qPCR Master Mix was validated using Parasite T DNA as a target. Figure 3 demonstrates that Path-ID™ qPCR Master Mix provides dependable target amplification over 7 orders of magnitude, down to 25 copies of target. Path-ID™ qPCR Master Mix enables amplification of low quantities of target.

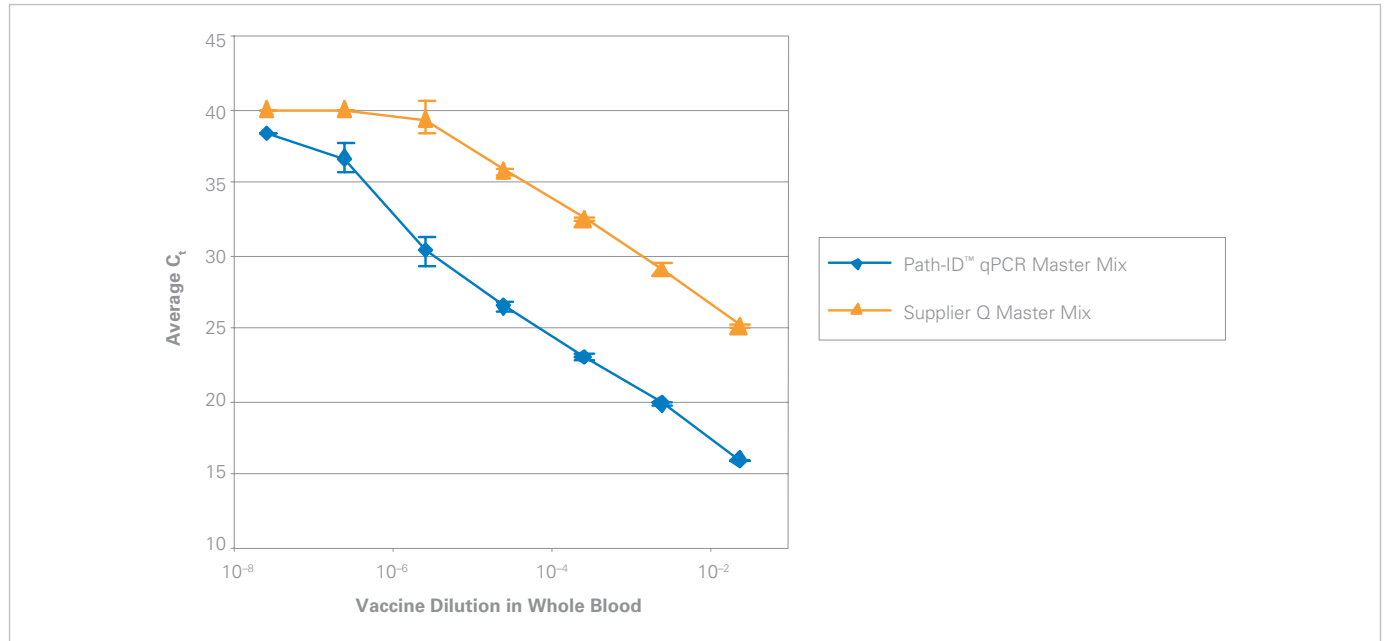


Figure 2. The Path-ID™ qPCR Master Mix Enables You to Obtain Accurate Results. Shown are the C_t values for amplification of a dilution series of Virus E vaccine in whole blood. Path-ID™ qPCR Master Mix exhibited higher sensitivity than a commonly used PCR master mix from Supplier Q. Reactions were performed on the Applied Biosystems 7500 Real-Time PCR System.

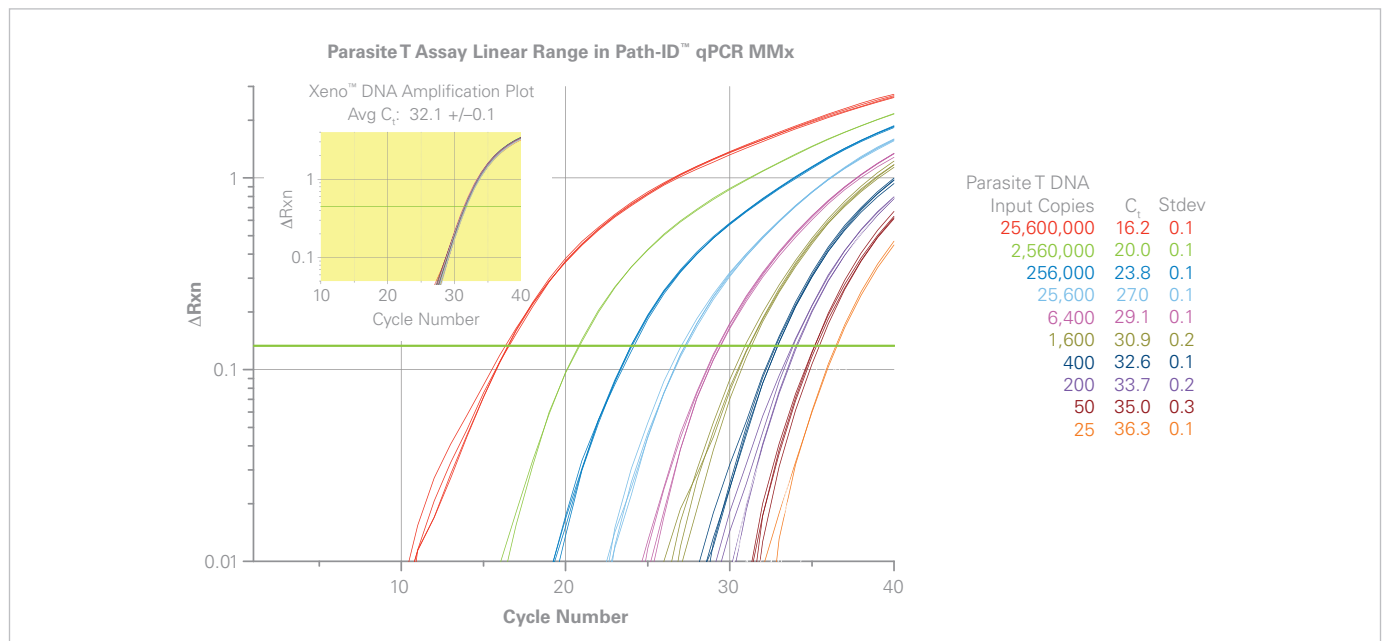


Figure 3. Linear Dynamic Range Across 7 Orders of Magnitude. An amplification plot is shown for Parasite T DNA in 4 replicate reactions using Path-ID™ qPCR Master Mix on the Applied Biosystems 7500 Real-Time PCR System. A dilution series of Parasite T DNA amplified with Path-ID™ qPCR Master Mix demonstrates that even the most dilute samples containing as few as 25 copies of target are easily amplified. All reactions showed consistent amplification of Xeno™ DNA Control, an internal positive control (inset).

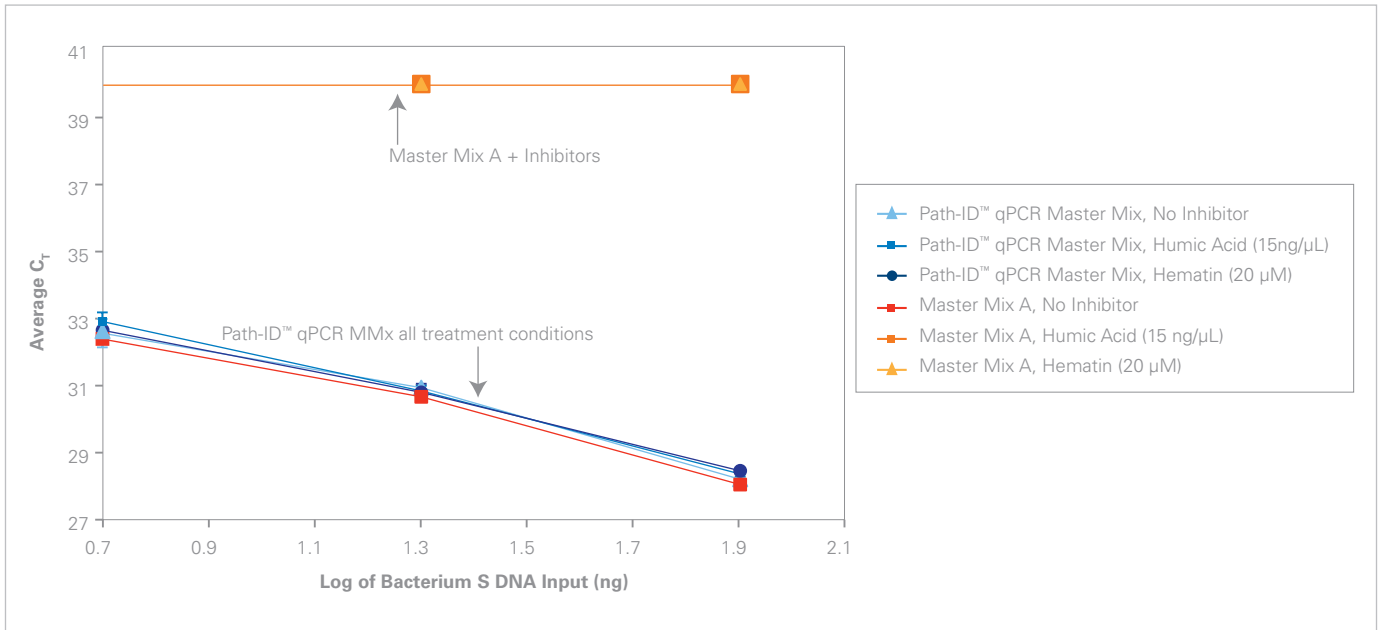


Figure 4. Path-ID™ qPCR Master Mix Tolerates High Levels of PCR Inhibitors. C_t values are shown for amplification of a dilution series of Bacterium S DNA target in the presence of common PCR inhibitors, hematin (20 μ M) and humic acid (15 ng/ μ L). The limit of detection for C_t is set at 40; measurements \geq 40 represent undetermined data.

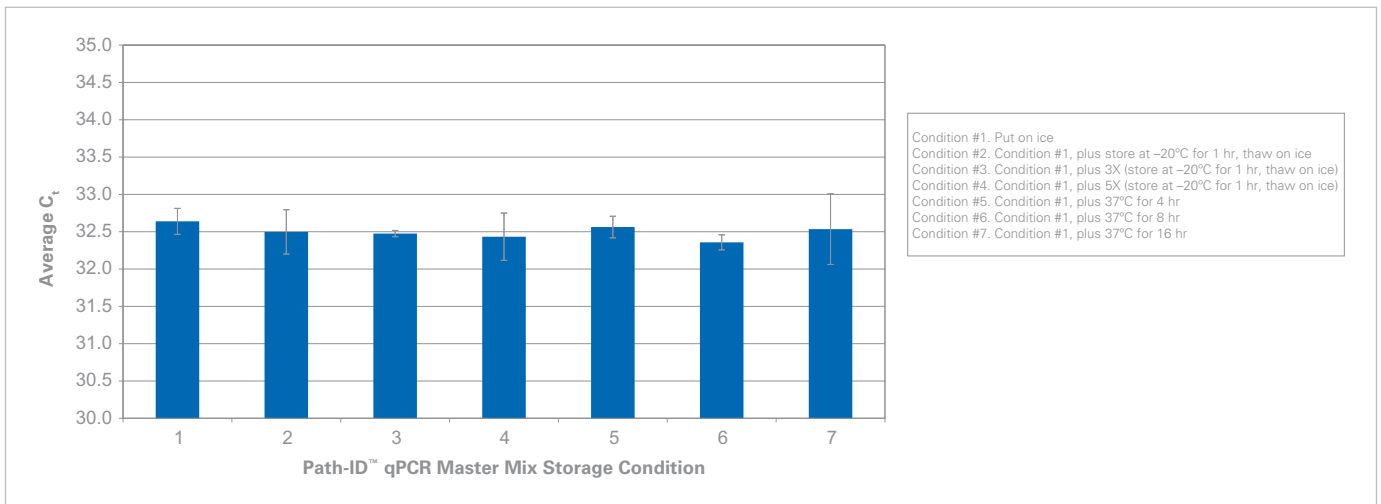


Figure 5. Stability to Multiple Freeze/Thaw Cycles and Extended Storage at 37°C. C_t values are given for amplification of Bacterium M DNA using Path-ID™ qPCR Master Mix with various handling conditions. PCR was performed on Bacterium M DNA using Path-ID™ qPCR Master Mix which had been subjected to various freeze/thaw cycles and stored at 37°C for different lengths of time. Reactions were carried out on the Applied Biosystems 7500 Real-Time PCR System. Consistent C_t values were obtained with the various conditions to which Path-ID™ qPCR Master Mix was subjected.

Robust Performance in the Presence of Inhibitors

Path-ID™ qPCR Master Mix provides reliable amplification of numerous animal pathogen DNA targets in the presence of PCR inhibitors frequently associated with agricultural samples. Figure 4 shows consistent PCR amplification of a dilution series of Bacterium S target DNA in the presence of high levels of PCR inhibitors (20 μ M hematin or 15 ng/ μ L humic acid).

Even in the presence of inhibitors, the sensitivity of Path-ID™ qPCR Master Mix remains unchanged.

Stable Mix for Convenient Reaction Setup

Path-ID™ qPCR Master Mix retains high performance even after exposure to harsh conditions. This was demonstrated using Bacterium M DNA and Path-ID™ qPCR Master Mix subjected to up to 5 cycles

of freeze/thaw, or storage at 37°C for up to 16 hours. Even after these treatments, Path-ID™ qPCR Master Mix provided accurate and reliable results, with all reactions showing equivalent amplification for the different handling conditions (Figure 5). The stability of Path-ID™ qPCR Master Mix enables convenient room temperature reaction setup.

Table 1. Path-ID™ qPCR Master Mix Compatibility Chart

Instruments and Reagents	
StepOne™ Real-Time PCR System	Yes
StepOnePlus™ Real-Time PCR System	Yes
Applied Biosystems 7500 Real-Time PCR System	Yes
Applied Biosystems 7500 Fast Real-Time PCR System	Yes
Applied Biosystems 7900HT Fast Real-Time PCR System	Yes
MagMAX™ Nucleic Acid Isolation Kits	Yes

ORDERING INFORMATION

Description	Size*	P/N
Path-ID™ qPCR Master Mix	1.375 mL, 100 rxns	4388643
Path-ID™ qPCR Master Mix	7 mL, 500 rxns	4388644

* Assumes 25 µL reaction volume

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