Inhibitor-Tolerant qPCR Mix

Optimized for diagnostic assays using clinical or environmental specimens with minimal sample pre-processing

Suitable Application

- Human Diagnostics
- Vet Health
- Environmental
- Food Testing
- Water Testing

A variety of different inhibitors inherent to clinical and environmental samples can negatively impact the sensitivity and accuracy of a molecular assay. Conventionally, to overcome this, specimens undergo processing prior to testing. However, extraction technologies are not 100% efficient which can impact the amount of target nucleic acid available for testing, and some inhibitors can co-elute following purification and induce false-negative assay results.

Inhibitor-resistant qPCR formulations are designed to reduce the amount of sample processing required for reliable qPCR analysis. Meridian Life Science has developed a novel inhibitor-resistant qPCR mix that can be used for amplification from crude lysates or inhibitor-rich samples such as urine, cerebral spinal fluid (CSF) or blood. It is suitable for developing qualitative assays that require fast turn-around times (TAT) or minimal sample processing to prevent sample loss.

Inhibitor-Tolerant qPCR Mix

- Ready-to-use qPCR mix engineered with a proprietary buffer system designed for overcoming common PCR inhibitors
- Allows for DNA amplification direct from crude lysate or unprocessed sample such as urine, cerebral spinal fluid (CSF), milk and blood
- Ideal for developing qualitative assays where sample is limited
- Eliminates need for sample extraction and speeds up assay TAT

PRODUCT	CAT NO.	VOLUME	REACTIONS
Inhibitor-Tolerant qPCR Mix	MDX013	5 mL	500 Rxn
		100 mL	10,000 Rxn

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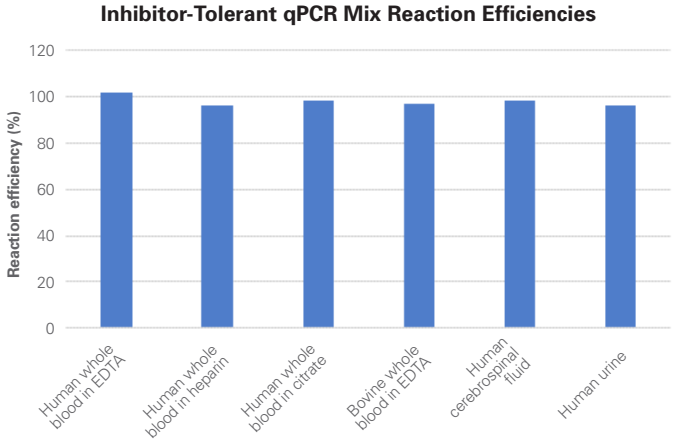
Product Highlights

High qPCR efficiency across a range of inhibitors

Reaction efficiencies were determined from reactions containing a variety of known PCR inhibitors ranging from whole blood to biofluids (20% in reaction). The results demonstrate that the reaction efficiency of the Inhibitor-Tolerant qPCR Mix remained within 90-110% in the presence of a wide range of common PCR inhibitors.



Ideal for developing quantitative assays direct from clinical or environmental samples

Figure 1. Efficient amplification from various liquid sample types (spinal fluid, urine and milk).

A 10-fold serial dilution of genomic DNA was spiked into cerebrospinal fluid, human urine or cow whole milk and the DNA was amplified, using Inhibitor-Tolerant qPCR Mix (green) and KAPA Probe Force Mix (red). The results illustrate that Inhibitor-Tolerant qPCR Mix is more sensitive than KAPA Probe Force Mix, as lower dilutions could be detected with better efficiencies, across all three sample types.

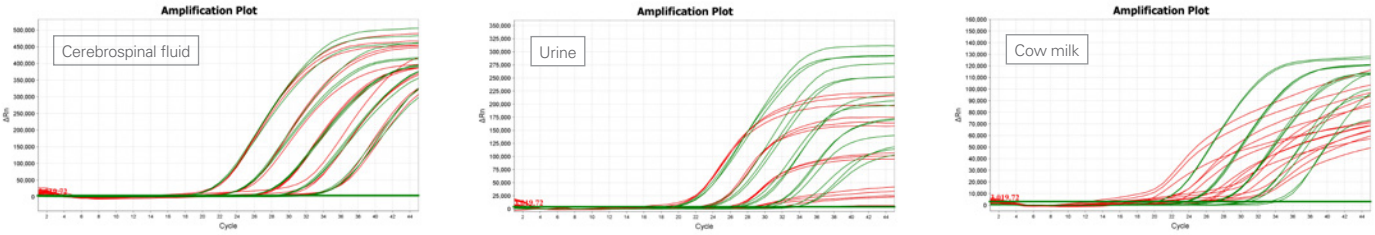
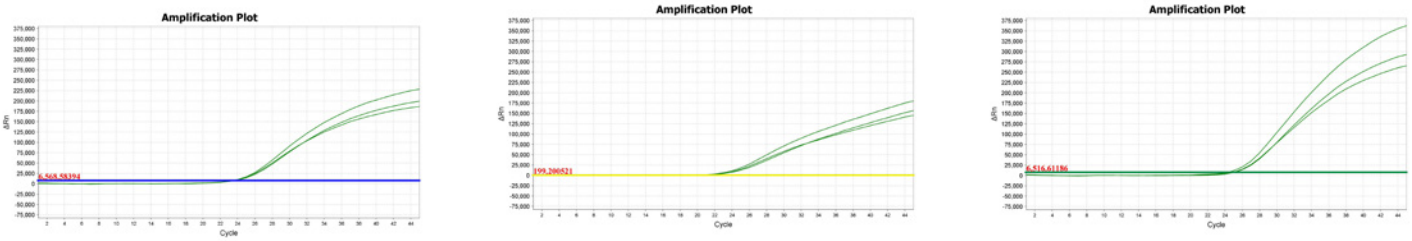


Figure 2. Direct amplification from plant lysate.

Genomic DNA was amplified from tomato lysate (1.6 mg tomato leaf tissue per reaction) in a triplex reaction. The results illustrate that Inhibitor-Tolerant qPCR Mix is able to amplify from samples rich in phenolic compounds, such as tomato crude leaf lysate, which are potent inhibitors of PCR.



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