

Product Information	
<b>PerfeCta<sup>®</sup> qPCR FastMix<sup>®</sup>, UNG, Low ROX<sup>™</sup></b>	
<b>Part Number</b>	95078-012
<b>Number of Reactions</b>	1250 Reactions
<b>Reaction Size</b>	20 $\mu$ L
<b>Storage Temperature</b>	-25°C to -15°C
<b>Lot Number</b>	66181925
<b>Reference Number</b>	032621
<b>Expiration Date</b>	02/28/2023

**Product Description:**

PerfeCta qPCR FastMix, UNG is a 2X concentrated, ready-to-use reaction cocktail that contains all components, except primers, probe(s), and template for real-time quantitative PCR systems that do not require an internal reference dye. The proprietary buffer and stabilizers have been specifically optimized to deliver maximum PCR efficiency, sensitivity, and robust fluorescent signal with TaqMan<sup>®</sup> or TaqMan MGB probe chemistry when using rapid PCR cycle times and reduced reaction volumes. This affords greater reagent economy and laboratory throughput on conventional or rapid ramp rate qPCR systems. The enhanced specificity of this FastMix suppresses cross-reactivity between homologous sequences, improving detection and discrimination in SNP applications. A key component of this FastMix is AccuFast<sup>™</sup> Taq DNA polymerase. This hot-start Taq contains a proprietary mixture of monoclonal antibodies that bind to the polymerase and keep it inactive prior to the initial PCR denaturation step (> 48 hours at room temperature). Similar to our AccuStart<sup>™</sup> Taq DNA polymerase, these antibodies are irreversibly inactivated

during the initial PCR denaturation step. However, unlike other antibody hot-start polymerases, activation of AccuFast Taq is instantaneous at 95°C. Rapid recovery of fully active, unmodified Taq DNA polymerase is critical for efficient extension kinetics. Replication of fragments up to 200 bp is complete in less than 20s at 60°C. Additionally, the dNTP mix in this FastMix contains dUTP in place of dTTP. Inclusion of uracil-N-glycosylase (UNG) prevents amplification of carry-over contamination from previous dU-containing PCRs.

**Component Part Numbers:**

**84081 PerfeCta qPCR FastMix, UNG, Low ROX 1.25 mL**

Product Specifications			
95078			
Assay	Functional Assay	DNase	RNase
Result	Pass	Pass	Pass

**Quality Control Analysis and Specifications:**

**Nuclease Assay:**

**DNase:** DNase activity must be below the detectable limits of 100 pg DNase I equivalent as assayed using a fluorogenic substrate following a 1 hour incubation at 37°C with each kit component at 1X concentration.

**RNase:** RNase activity must be below the detectable limits of 1 pg RNase A equivalent as assayed using a fluorogenic substrate following a 1 hour incubation at 37°C with each kit component at 1X concentration.

**qPCR  $\beta$ -actin Plasmid DNA Functional Assay:** Detection of  $\beta$ -actin from 10 copies to  $1 \times 10^7$  copies. The Cq standard curve analysis must have a coefficient of determination ( $r^2$ )  $\geq 0.990$  with a slope between -3.20 to -3.70

**Limitations of Use**

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This product was developed, manufactured, and sold for *in vitro* use only. The product is not suitable for administration to humans or animals. SDS sheets relevant to this product are available upon request.