**Product Description:**
PerfeCTa SYBR Green SuperMix is a user-friendly, 2X concentrated reaction mix that simplifies setup and reduces errors with optimized reference dye and pre-blended AccuVue plate loading dye for visual confirmation of reagent addition and mixing. This proprietary buffer technology stabilizes a high concentration of SYBR Green I dye to ensure maximum optical signal with low abundance or small targets (such as microRNA). Successful detection with a non-specific, dsDNA intercalating dye requires precise target amplification as off-target primer elongation will contribute to overall fluorescent signal and lead to over-reported relative abundance values. This reagent is powered by a highly-processive, ultra-pure Taq DNA polymerase mutant with stringent, ultra-pure AccuStart™II antibody hot start technology that allows ambient room-temperature setup and maximal enzyme kinetics after rapid, irreversible denaturation at 95°C.

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**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 β-actin Plasmid DNA Functional Assay:** Detection of β-actin from 10 copies to 1 x 10⁷ copies. Coefficient of determination (r²) ≥ 0.990 with a slope analysis between -3.20 and -3.65.

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**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.

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