**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.

**Component Part Numbers:**
84017 PerfeCTa SYBR Green SuperMix, 50mL

**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 for SYBR Green SuperMix:** Real-time PCR detection of log-fold serial dilutions of a control DNA from 10 copies to 1 x 10⁷ copies. Cq standard curve analysis must have coefficient of determination ($r^2$) ≥0.990 with a slope between −3.20 and −3.65.

**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.