**Product Description:**

qScript cDNA SuperMix is a 5X concentrated, sensitive, and easy-to-use 1-tube reagent for first-strand cDNA synthesis that combines a highly-modified RNase H+ mutant of M-MLV together with ribonuclease inhibitor protein (RIP) in a rigorously optimized formulation for real-time qPCR applications. The stabilized SuperMix formulation has been rigorously optimized to deliver sensitive, linear assay performance across a spectrum of relative abundance and input RNA (10pg - 1ug). qScript cDNA SuperMix reagent performance is unaffected by repetitive freeze/thaw cycling (>20X), conferring greater ease-of-use and consistent assay performance. Oligo (dT) and random primers are pre-blended in a precise ratio to provide equal representation of 5’ and 3’-sequences for accurate gene expression quantification.

**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.

**cDNA SuperMix Functional qPCR Assay:** First-strand synthesis is performed on a 10-fold serial dilution over 6 orders of dynamic range (1 μg to 1 pg) using a Universal Reference total RNA preparation. One tenth of each first strand reaction is used as template for real-time PCR of a reference gene in duplicate reactions. Cq standard curve analysis must have coefficient of determination ($r^2$) ≥ 0.990 with a slope between −3.20 and −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.

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