INTEGRATED DNA TECHNOLOGIES

certificate of analysis

**Product:** PrimeTime™ Gene Expr Master Mix, 25 mL

**Product number:** 1055771

**Kit batch number:** 0000468931

**Master mix lot number:** 0000468337

**Expiration date:** 2021-AUG-21

**Reference dye lot number:** 0000457119

**Expiration date:** 2022-MAR-21

| Test | Specification | Results |
|---|---|---|
| **Functional testing*** Master mix is tested in singleplex and duplex assays using nucleic acid templates. | | |
| **Singleplex efficiency** | 90–110% | Pass |
| **Singleplex $R^2$** | >0.990 | Pass |
| **Duplex efficiency** | 90–110% | Pass |
| **Duplex $R^2$** | >0.990 | Pass |
| **$C_q$ difference singleplex vs. duplex** | $C_q$ difference ≤0.50 | Pass |
| **Antibody-mediated *Taq* polymerase inactivation†** | <5% increased fluorescence over 10 min at 60°C | Pass |
| **Analytical testing** | | |
| **pH** | 8.40 ±0.10 pH units | Pass |
| **dNTP concentration** | 3.2 ±0.4 mM | Pass |
| **RNase contamination‡** | <1 ng/mL RNase A<br><12.5 ng/mL RNase T1<br><70 ng/mL RNase I | Pass |
| **DNase contamination§** | <2 U/µL | Pass |
| **ss exonuclease activity** | 90–110% normalized fluorescence at 24 hrs | Pass |
| **ds exonuclease activity** | 90–110% normalized fluorescence at 24 hrs | Pass |
| ***E. coli* DNA contamination** | ≤10 copies/µL | Pass |

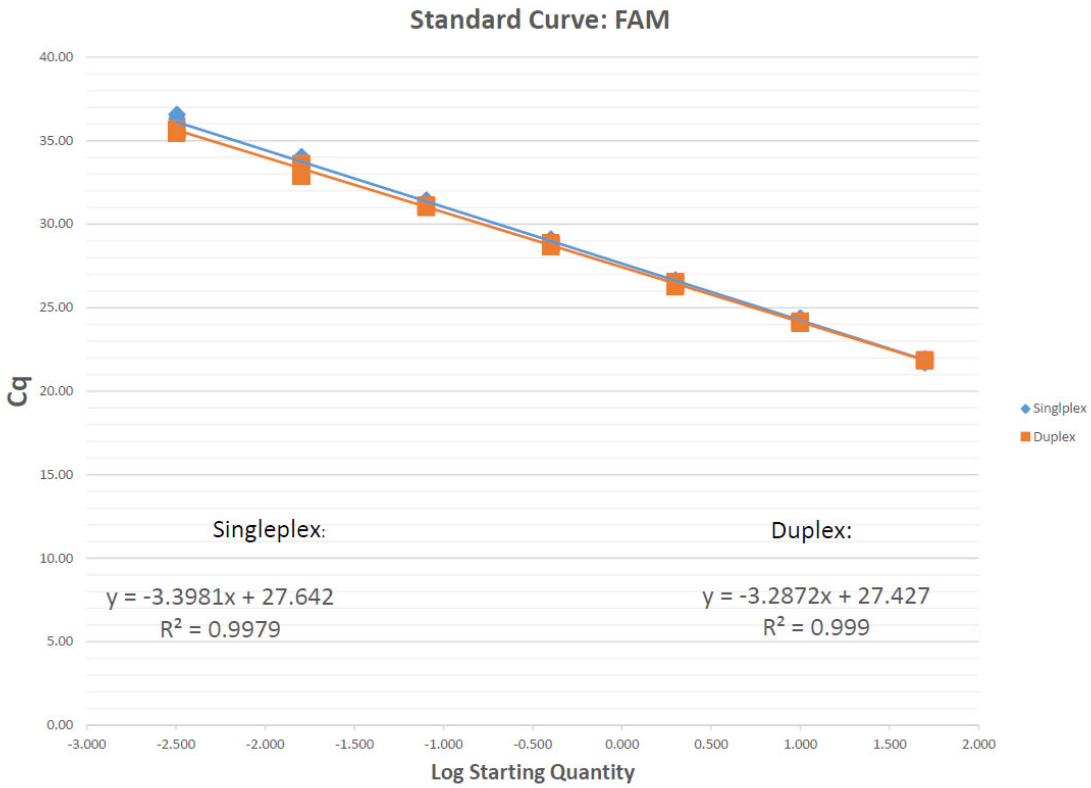
* Functional testing: efficiency and $R^2$ determined through evaluation of serial dilutions of cDNA template (50–0.0032 ng cDNA per rxn) using PrimeTime Assays (one FAM-ZEN and one HEX-ZEN assay) in both singleplex and duplex reactions using cycling conditions of 3 min. 95°C, 45 x (5 sec. 95°C, 30 sec. 60°C).

† Polymerase inhibition: measured by incubation of FAM-labeled substrate with master mix for 10 min at 60°C.

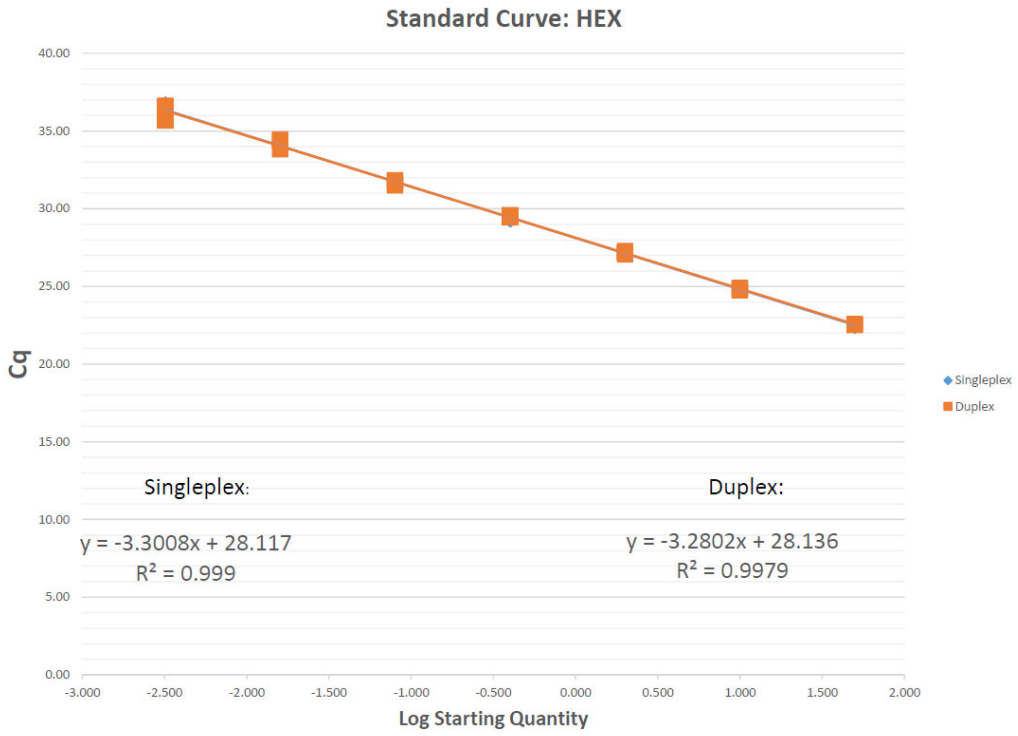
‡ RNase contamination: measured using IDT RNaseAlert® reagents.

§ DNase contamination: measured using IDT DNaseAlert reagents.

## Standard curve (FAM-ZEN–based assay) – singleplex and duplex



## Standard curve (HEX-ZEN–based assay) – singleplex and duplex




**Storage:** Store PrimeTime Gene Expression Master Mix in a sealed container at –20°C. Store Reference Dye in a sealed container at –20°C.

**Verified by:** Ekaterina Carlson
**Quality release date:** 2020-JAN-27

IDT verifies that the information contained herein is true and correct to the best of our knowledge. This document was produced electronically and is valid without signature.

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