



## AMPLIFICATION

# Reliance Select cDNA Synthesis Kit

## Select the Most Reliable and Sensitive cDNA Synthesis Kit



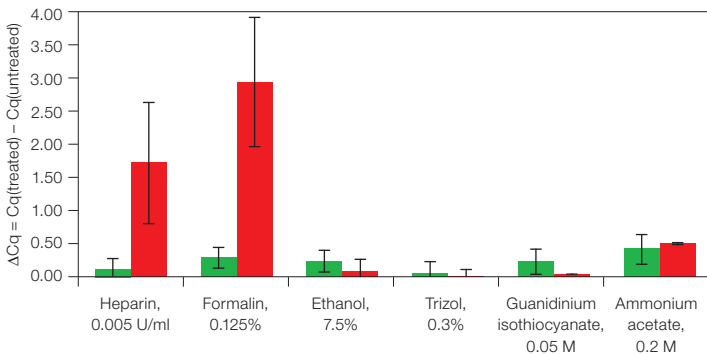
The Reliance Select cDNA Synthesis Kit is a high-performance kit featuring Reliance Reverse Transcriptase, a novel chimeric enzyme that delivers superior results across a broad dynamic range, even with challenging samples. Engineered to overcome the processivity issues experienced with most reverse transcription kits, the Reliance Select Kit delivers more accurate reverse transcription quantitative PCR (RT-qPCR) results, even from samples containing PCR inhibitors or degraded RNA. Its flexible priming strategy and the inclusion of a DNase treatment allow for construction of cDNA libraries that can overcome most experimental challenges.

### With Reliance Select cDNA Synthesis Kit

- **Obtain high-quality, accurate cDNA libraries from a range of input amounts and a variety of sample types** — synthesizes cDNA from input RNA ranging from 100 fg to 2 µg using intact and degraded RNA samples, in particular RNA from formalin-fixed paraffin-embedded (FFPE) tissue
- **Overcome PCR inhibitors** — delivers unrivaled performance with common PCR inhibitors, such as formalin and heparin
- **Power through RNA secondary structure and GC-rich (up to 80%) regions** — the enzyme's enhanced thermal stability allows it to operate at 50°C or higher, enabling successful transcription through complex secondary structures in the RNA
- **Eliminate genomic DNA (gDNA) for more accurate RT-qPCR results** — includes a DNase treatment optimized to eliminate contamination carried over from the sample preparation step
- **Shorten time to results** — accelerate the process with a 10-minute protocol
- **Optimize experimental design** — use the flexible priming strategy to reverse transcribe the entire transcriptome, only polyadenylated transcripts, or specific gene targets

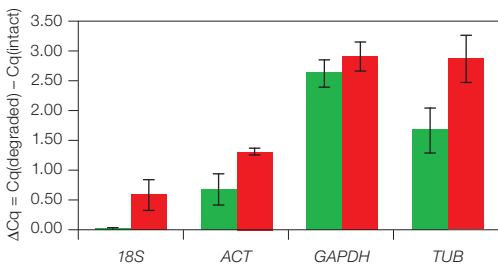


### Unrivaled Performance in the Presence of Inhibitors



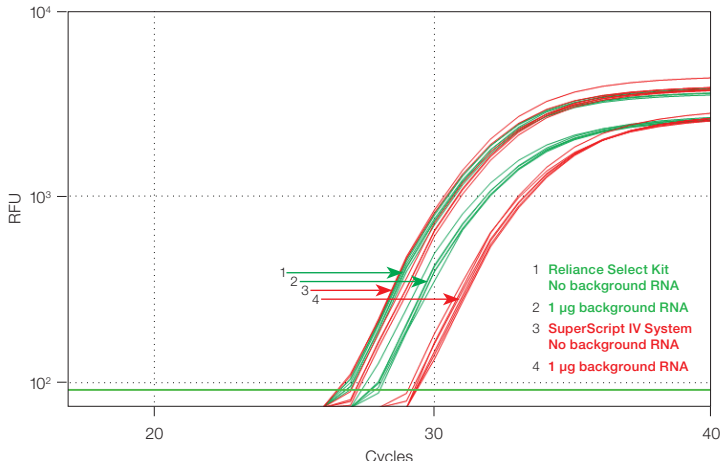
The Reliance Select cDNA Synthesis Kit demonstrates an efficiency superior to that of the SuperScript IV First-Strand Synthesis System (Thermo Fisher Scientific Inc. #18091200) in the presence of inhibitors. Varying amounts of Cervical Adenocarcinoma (HeLa-S3) Total RNA (Thermo Fisher Scientific Inc. #AM7852), ranging from 1 µg to 2 µg, were used in a Reliance Select Kit (■) or a SuperScript IV System (■) reaction with oligo(dT)20 according to the corresponding protocols. One of each duplicate reaction was spiked with a known PCR inhibitor. First-strand cDNA libraries were used in qPCR reactions using the SsoAdvanced SYBR® Green Supermix and an assay panel that included high- and low-expressing targets, GC-rich amplicons, and amplicons of varying lengths. The Reliance Select Kit delivers more consistent results and earlier average Cq than the SuperScript IV System, as is evident from the lower ΔCq values of treated versus untreated reactions. Cqs in the SuperScript IV System reactions were delayed (up to a 3-Cq delay with formalin) in the presence of most inhibitors, whereas Reliance Select Kit reactions were within 0.5 Cq of their controls. Cq, quantification cycle.

### Greater Transcription Efficiency with Degraded Samples



The Reliance Select Kit delivers earlier Cqs compared to the SuperScript IV System when tested with artificially degraded RNA samples. Varying amounts of degraded Cervical Adenocarcinoma (HeLa-S3) Total RNA ranging from 1 ng to 1 µg, were reverse transcribed according to the product protocols, using the Reliance Select Kit (■) or the SuperScript IV System (■) reactions and random primers. First-strand cDNA libraries were used in qPCR reactions with the SsoAdvanced SYBR® Green Supermix and an assay panel that included common reference gene targets. The average Cq across the concentration range for a given target using degraded RNA was compared to the average Cq of duplicate reactions using intact RNA. The Reliance Select Kit delivered more accurate results between intact and degraded RNAs than the SuperScript IV System, as is evident from the lower ΔCq values. Cq, quantification cycle.

### Unbiased Transcription and Superior Sensitivity



Reliance Select Kit allows for sensitive detection of low-abundance targets. ERCC RNA Spike-In Mix controls (Thermo Fisher Scientific #4456740) were reverse transcribed in the presence or absence of background RNA (1 µg of Cervical Adenocarcinoma [HeLa-S3] Total RNA) using random primers and the Reliance Select Kit or SuperScript IV System according to the product protocols. First-strand cDNA libraries were used in qPCR reactions targeting ERCC-0034. The low-abundance ERCC spike-ins in the presence of background RNA were more sensitively detected with the Reliance Select Kit. This is evident when comparing the <1 Cq shift between samples with and without 1 µg background RNA when transcribed with the Reliance Select Kit to the >3 Cq delay when transcribed with the SuperScript IV System. RFU, relative fluorescence units.

### Ordering Information

Catalog #	Description
12012802	Reliance Select cDNA Synthesis Kit, 25 x 20 µl reactions
12012801	Reliance Select cDNA Synthesis Kit, 100 x 20 µl reactions
17006111	Reliance Select cDNA Synthesis Kit, 500 x 20 µl reactions

### Related Products

Catalog #	Description
1725270	SsoAdvanced Universal SYBR® Green Supermix, 200 x 20 µl reactions, 2 ml (2 x 1 ml vials)
1725280	SsoAdvanced Universal Probes Supermix, 200 x 20 µl reactions, 2 ml (2 x 1 ml vials)
HSP9601	Hard-Shell 96-Well PCR Plates, low-profile, thin-wall, skirted, white shell/clear well, pkg of 50
MSB1001	Microseal 'B' Adhesive Seals, 100 optically clear seals
TCS0803	Optical Flat 8-Cap Strips, for PCR tubes, 120
TLS0851	0.2 ml 8-Tube Strips without Caps, low-profile, white, 120 strips
1851196	C1000 Touch Thermal Cycler with 96-Well Fast Reaction Module

Visit [bio-rad.com/RelianceSelect](http://bio-rad.com/RelianceSelect) for more information.

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Hard-Shell Plates are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Numbers 7,347,977; 6,340,589; and 6,528,302.



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