

## PROTECT WHAT'S PRECIOUS

**RNase Inhibitor** exhibits high-affinity, non-competitive binding of RNases A, B, and C in a 1:1 ratio, enabling high-quality cDNA synthesis from low-quality RNA samples.

### KEY FEATURES & BENEFITS

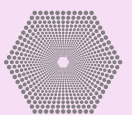
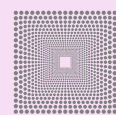
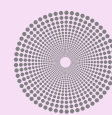
- Prevent RNA degradation in RT-qPCR, single cell, and single nuclei sequencing workflows at temperatures up to 55°C
- Reduce material costs with a drop-in solution that delivers equivalent performance at a differentiated price-point
- Improve performance in low-DTT settings with a murine RNase inhibitor that better resists oxidation
- Custom formats, including high concentration, support lyophilization applications
- Highly stringent enzyme manufacturing ensures quality performance across lots

### ADVANTAGES OF PARTNERING WITH WATCHMAKER

- Purpose-designed enzymes deliver outstanding performance
- Expedited custom formats from bulk to finished goods, including white label kitting
- ISO 13485:2016-certified Quality Management System
- Flexible terms designed with both startup and large organizational needs in mind

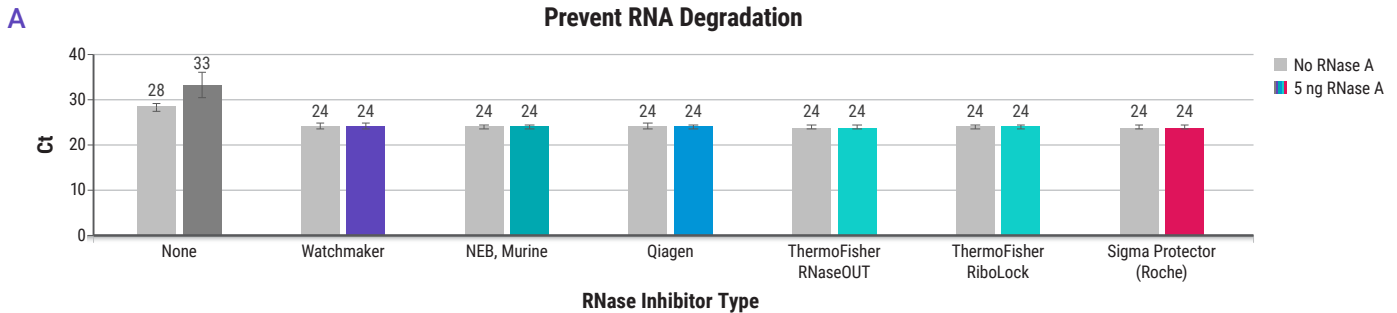
### APPLICATIONS

- Nuclei isolation
- Single-cell RNA sequencing
- RT-PCR and RT-qPCR
- cDNA synthesis
- Bulk RNA sequencing
- Cell-free cloning
- *In vitro* synthesis (IVT)
- Applications where maintaining RNA integrity is critical

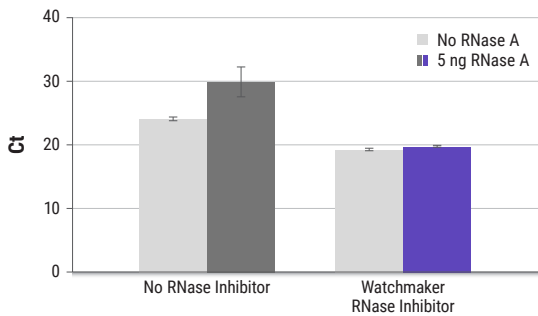


## SAFEGUARD RNA ASSAY PERFORMANCE

Ribonucleases (RNases) are ubiquitous and can have significant and detrimental impacts on assay performance and sensitivity. Incorporating RNase inhibitor to prevent RNA degradation ensures reliability and accuracy of experimental results – particularly for studies and assays focused on pathogen detection, gene expression, RNA stability, and other RNA-dependent processes.



**B Prevent RNA Degradation at Elevated Temperatures**



**FIGURE 1. Preserve RNA integrity – even at elevated temperature – through the addition of RNase Inhibitor.** The addition of RNase Inhibitor to first strand synthesis (FSS) reactions improves cDNA yield even when no RNase A is added to the reaction – highlighting risks of RNase contamination during sample handling. Addition of 5 ng RNase A results in a >10-fold decrease in cDNA yield when no RNase Inhibitor is present. Assay performance is rescued by the addition of RNase Inhibitor, where all commercial enzymes evaluated perform equivalently.

RNase Inhibitors sourced from a variety of vendors were added to oligo-dT-primed FSS reactions with StellarScript HT+ Reverse Transcriptase. Reactions ran for 30 min at (A) 42°C or (B) 55°C using 10 ng total liver RNA.

## RNASE INHIBITOR SPECIFICATIONS

- Purity (SDS-PAGE): ≥97%
- dsDNA Exonuclease: <1% released\*
- ssDNA Exonuclease: <1% released\*
- DNA contamination (*E. coli*, mammalian, library): <10 copies\*
- Phosphatase: <1% released\*
- Endonuclease: Not detectable\*
- Nonspecific RNase: Not detectable\*

\*As assessed using 450 U of protein input per assay.

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 OR VISIT  
[WATCHMAKERGENOMICS.COM/ENZYMES](https://WATCHMAKERGENOMICS.COM/ENZYMES)

PRODUCT	4 kU <sup>1</sup>	20 kU <sup>1</sup>	40 kU <sup>1</sup>
RNase Inhibitor (40 U/μL)	7K0088-100UL	7K0088-500UL	–
RNase Inhibitor (800 U/μL)	–	–	3K0108-50UL

<sup>1</sup>One unit of RNase inhibitor is defined as the amount of RNase Inhibitor required to inhibit activity of 0.375 ng of RNase A by ≥95%.

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