RNase Inhibitor, Murine (200 U/μL)

Product description

RNase Inhibitor, Murine is a 50 kDa recombinant protein isolated from Escherichia coli, encoded by the murine ribonuclease inhibitor gene. This product exhibits specific inhibitory activity against RNases A, B and C, but does not inhibit RNase 1, RNase T1, S1 nuclease, RNase H, or RNases derived from Aspergillus. It binds to a variety of RNases non-covalently at a molar ratio of 1:1 with high affinity. Notably, previous studies have confirmed that no inhibitory effect of this RNase Inhibitor on enzyme activity is observed when used in combination with AMV or M-MuLV reverse transcriptase, Taq DNA polymerase, or SP6/T7/T3 RNA polymerase. This indicates that it can be applied in diverse experiments to prevent RNA degradation.

Compared with human RNase inhibitor, murine RNase inhibitor lacks a pair of cysteine residues that are highly susceptible to oxidation and cause inhibitor inactivation. Accordingly, murine RNase inhibitor displays markedly improved oxidation resistance relative to human- or porcine-derived RNase inhibitors. In addition, it remains stable at low DTT concentrations (<1 mM), making it particularly suitable for reactions containing low DTT levels (e.g. real-time RT-PCR).

This product can be applied in various reactions to prevent RNA degradation, including RT-PCR, cDNA synthesis, in vitro transcription, enzymatic RNA labeling reactions, and other relevant applications.

Composition and storage conditions

Components \ Size	20000 U	200000 U	Storage
RNase Inhibitor, Murine (200 U/μL)	100 μL	1 mL	-20 °C

Shipping: Dry Ice **Shelf life:** 2 years

Experimental operation

Applicable to assays including IVT (in vitro transcription), RT-PCR, cDNA synthesis and other experiments.

1) Add RNase Inhibitor, Murine into the reaction system to a final concentration of 1 U/μL.

2) RNase Inhibitor, Murine is a 50 kDa protein. It will be inactivated under denaturing conditions such as high temperature and denaturants, and must be used at temperatures below 50 °C.

***Note:** RNase Inhibitor, Murine should be added prior to other components that may contain RNases (e.g. enzymes, plasmids).

Notes

1. The product should be kept on ice during operation and immediately stored at −20 °C after use.

2. When preparing the reaction system, it is recommended to add RNase Inhibitor, Murine prior to other components that may be contaminated with RNase to prevent RNA degradation.

3. After adding RNase Inhibitor, Murine, avoid vigorous shaking, vortexing or excessive bubbling of the reaction mixture, as these may impair RNase inhibitory activity.

4. This product is for research use only.

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