

Murine RNase Inhibitor (200 U/ μ L, Glycerol-free)

Product description

RNase inhibitor is a specific ribonuclease (RNase) inhibitor originally isolated from human placenta. It functions by binding to RNase non-covalently to form a stable complex, thereby inactivating the enzyme.

This product is a recombinant mouse-derived RNase inhibitor expressed and purified in soluble form from *E. coli*. It effectively inhibits various RNase subtypes, including RNase A, B, and C. Based on testing by RT-PCR and RT-qPCR, this inhibitor is fully compatible with Hifair™ V Reverse Transcriptase (Cat#11300ES) as well as a broad range of DNA polymerases. Compared to human-derived RNase inhibitors, this product lacks the two cysteine residues that are highly sensitive to oxidation, resulting in significantly enhanced oxidative stability. Furthermore, it is better suited for applications highly sensitive to DTT, such as qPCR.

This RNase inhibitor is suitable for use in cDNA first-strand synthesis, polysome isolation, in vitro transcription, and cell-free translation systems.

The formulation is glycerol-free, making it especially appropriate for the preparation of lyophilized reagents.

Specifications

Cat.No.	10703ES05 / 10703ES10 / 10703ES58 / 10703ES60 / 10703ES70 / 10703ES80
Size	2 KU / 10 KU / 80 KU / 100 KU / 200 KU / 1000 KU

Components

Name	10703ES05	10703ES10	10703ES58	10703ES60	10703ES70	10703ES80
Murine RNase Inhibitor (200 U/ μ L, Glycerol-free)	10 μ L	50 μ L	400 μ L	500 μ L	1 mL	5 mL

Storage

Shipped with ice packs. Store the product at 2–8 °C. The shelf life is 6 months.

Definition of Activity

One unit (U) of RNase inhibitor activity is defined as the amount of enzyme required to inhibit 50% of the activity of 5 ng of RNase A. RNase A activity is quantified by measuring its hydrolysis of cyclic 2',3'-CMP to produce 3'-CMP.

Notes

1. This product inhibits RNase activity over a broad pH range, with maximum activity observed between pH7-8.
2. Avoid foaming, vigorous stirring, vortexing, or other harsh agitation to prevent inactivation of the product.
3. This product does not inhibit RNase H activity.
4. For your safety and health, please wear a lab coat and disposable gloves when handling this product.

Application Example (Reverse Transcription Experiment)

1. Prepare the following reaction mixture in an RNase-free centrifuge tube:

Component	Volume (μL)
RNase free H ₂ O	Up to 20
5×Hifair™ V Buffer	4
Oligo (dT)18 (50 μmol/L)	1
dNTP Mix (10 mmol/L each)	1
Murine RNase Inhibitor (200 U/μL)	0.2
Hifair™ V Reverse Transcriptase (200 U/μL)	1
Template RNA	Total RNA:1 ng-5 μg

2. Mix gently.

3. Incubate at 42 °C for 15–30 minutes, followed by 85 °C for 5 minutes.

4. Store the cDNA at –20 °C.