
Product Manual

Product Name	RNase Inhibitor
Source	Recombinant expression in Escherichia coli
Catalog Number	CSB-DEM029
Physical Form	Liquid
Enzyme Activity	40 U/ μ L
Storage Conditions	-20 \pm 5 $^{\circ}$ C
Molecular Weight	50 kDa
Storage Buffer	20 mM HEPES-KOH, 50 mM KCl, 8 mM DTT, 50% Glycerol, pH 7.6
Activity Definition	The amount of enzyme that inhibits 50% of the activity of 5 ng of RNase A is defined as one activity unit (U).
Quality Control	Free from endonucleases, exonucleases, and RNase contamination
Shelf Life	24 months

Product Description

RNase Inhibitor can efficiently and non-covalently bind to RNase A, B, and C in a 1:1 ratio, inhibiting their activity with a binding constant greater than 10^{14} . This product does not inhibit RNase 1, RNase T1, S1 nuclease, RNase H, or RNase from Aspergillus species. Additionally, when used in conjunction with the following polymerases, Mammalian RNase Inhibitor does not inhibit their activity: Taq DNA polymerase, AMV or M-MuLV reverse transcriptase, phage RNA polymerases (SP6, T7, or T3), etc.

Product components

Component No.	Component Name	Specifications		
		1	RNase Inhibitor	4000 U

Operating instructions

1. Used in cDNA first-strand synthesis, RT-PCR, and RT-qPCR systems.
2. Protects RNA during in vitro transcription/translation.
3. Inhibits RNase activity during RNA isolation and purification processes.
4. Maintains its RNase inhibitory activity within a pH range of 5-8, with maximum inhibition at pH 7-8.
5. RNase Inhibitor should be used at temperatures below 50°C.

Precautions

1. The recommended concentration of RNase Inhibitor in the reaction system is 1 U/μL. It should be added before other components that may be a source of RNase contamination (e.g., enzymes, trace plasmids).
2. RNase Inhibitor is inactivated under denaturing conditions, while RNase remains active. Therefore, it is necessary to avoid denaturing inhibitors that are not covalently bound to RNase. To prevent the release of RNase after inhibitor denaturation, temperatures above 50°C or high concentrations of urea or other denaturing agents should be avoided.

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