ELK Biotechnology

For research use only.

RNase Inhibitor

Catalog No.	Specification	oncentration	Storage/Shelf life
EQ010-01	1000U	40U/μl	-20℃/one year
EQ010-02	5000U	40U/μl	-20℃/one year

Introduction

RNase Inhibitor is a recombinant RNase inhibitor expressed in soluble form in Escherichia coli. It has the same application effect as a specific ribonuclease inhibitor present in human placenta. Its essence is a protein with a molecular weight of 51,000 Da, etc. The pH of the electrical point is 4.7.

RNase Inhibitor can specifically bind RNase A, B, and C with a non-covalent bond to form a 1:1 complex to inactivate RNase, and has a broad spectrum of RNase inhibitory activity. RNasin is active in buffers of 0-0.5 M NaCl, pH 5-8, and has the highest activity at pH 7.8. RNasin protects the integrity of mRNA and improves the efficiency of transcription and translation, while avoiding the possible effects of using organic compound inhibitors.

RNase inhibitor is compatible with various reverse transcriptases and DNA Polymerase by RT-PCR and RT-qPCR. Compared with the human RNase inhibitor, the recombinant RNase inhibitor does not contain two cysteines and thus has higher antioxidant activity and is more suitable for experiments sensitive to high DTT (such as qPCR).

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Application

First-strand cDNA synthesis, isolation of polysomes, in vitro translation, in vitro cell-free system transcription, in vitro transcription of SP6 or T7 RNA polymerase.

Storage solution

20 mM HEPES-KOH (pH7.5), 50 mM KCl, 5 mM DTT, 50% Glycerol

Active unit

The amount of enzyme required to inhibit 50% of 5 ng of RNase A activity is defined as 1 unit of activity (U). (Inhibition activity is determined by inhibition of RNase A hydrolysis by Cyclic 2', 3'-CMP)

Purity

1. 300 units of RNase Inhibitor and 1 μg of supercoiled pBR322 DNA were reacted at 37 ° C for 1 hour, and the electrophoresis bands of DNA did not change.
2.100 units of RNase Inhibitor and 1 μg of 16S, 23S rRNA were reacted at 37 ° C for 1 hour, and the electrophoresis bands of RNA did not change.
3. SDS-PAGE: a single band at a molecular weight of 50 KDa.

Recommended dosage

1. cDNA synthesis reaction (RNase Inhibitor, reaction amount 0.5 units/μl).
2. In vitro translation (RNase Inhibitor, reaction volume 1 unit/μl).
3. In vitro cell-free system transcription (RNase Inhibitor, reaction volume 20 units/μl).
4. In vitro transcription of SP6 or T7 RNA polymerase (RNase Inhibitor, reaction volume 1 unit/μl).
5. Polysome Inhibitor (reaction amount 1 unit/μl).

Attention

The inhibitory activity has a wide pH range and exhibits maximum activity at pH 7.0-8.0.

Foaming or strong agitation (Vortex, etc.) can cause deactivation.