RNaseLock® RNase Inhibitor User Manual

RNaseLock® RNase Inhibitor

Cat. No: PC005 (2000 U)

User Manual

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RNaseLock® RNase Inhibitor

I. Description

RNase (Ribonuclease) Inhibitor is the porcine gene RNase inhibitor expressed in recombinant strain of *E. coli*. The RNase Inhibitor is active against RNase A, RNase B, and RNase C. It does not inhibit the activity of RNase H, S1 nuclease, T7, SP6 and T3 RNA polymerase, M-MLV and AMV reverse transcriptase, and DNA polymerase. Therefore, it is widely used in experiments requiring the prevention of potential RNase contamination, such as cDNA synthesis, *in vitro* transcription and translation.

■ Source

E.coli recombinant protein expression.

■ Definition of Activity Unit

One unit is defined as the amount of the RNase inhibitor required to inhibit the activity of 5 ng of RNase A by 50%.

■ Purity

The purity of Coomassie bright blue stained SDS-PAGE was more than 95%, and no nuclease contamination was found.

■ Feature

✧ Effectively inhibits the activity of RNase A, RNase B and RNase C in eukaryotes.

✧ It is capable of inhibiting RNase activity at temperatures up to 50℃.

✧ The buffer system contains DTT and exhibits activity over a wide pH range.

✧ It can effectively protect RNA without affecting RNA transcription, reverse transcription and protein translation process.

✧ 40 U of RNase Inhibitor can effectively inhibit the activity of RNase A up to 80 ng.

■ Application

It is mainly used in the experiments with potential RNase contamination such as cDNA synthesis, *in vitro* transcription and translation, mRNA isolation and purification.

■ Storage Buffer

50 mM Tris-HCl, 100 mM KCl, 50% Glycerol, 0.1 mM EDTA, 5 mM DTT, pH 7.5

II. Contents and Storage

Cat. No.	Contents	Quantity
PC005	RNaseLock® RNase Inhibitor (40 U/μl)	50 μl

Store all components at -20℃ (stable for at least 12 months). Avoid repeated freezing/ thawing.

III. Experimental example

Effectively inhibits the activity of RNase A

Experimental description: In a 20 μl reaction system, add 15 ng of total RNA from mouse liver tissue and 40 U of RNase Inhibitor, along with different concentrations of RNase A. Incubate at 37℃ and observe the protective effect of the RNase Inhibitor on the RNA.

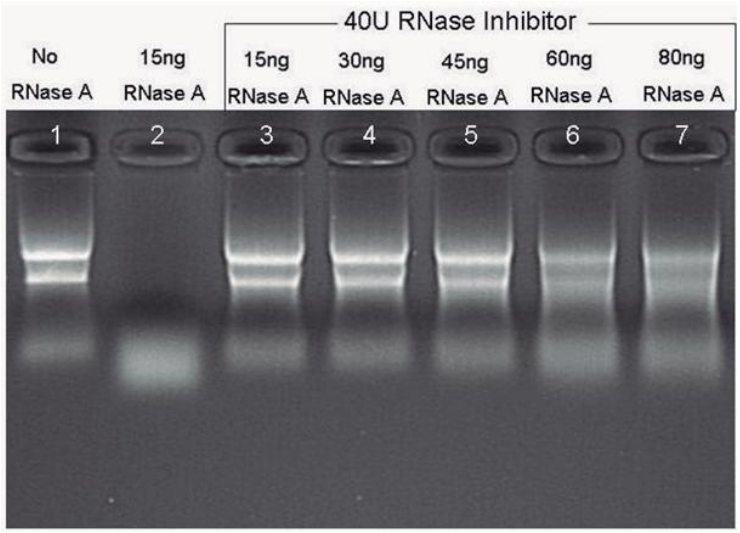

Figure 1: RNase Inhibitor of 40 U can effectively inhibit the activity of RNase A up to 80 ng.

1. Total RNA from mouse liver tissue
2. Total RNA and 15 ng RNase A
3~7. Total RNA and 40 U RNase Inhibitor with different concentrations of RNase A

Broad thermal stability of RNase Inhibitor

Experimental description: In a 20 µl reaction system, add 15 ng of total RNA from mouse liver tissue, along with 40 U of RNase Inhibitor and 15 ng of RNase A. Incubate at different temperatures to observe the protective effect of RNase Inhibitor on RNA.

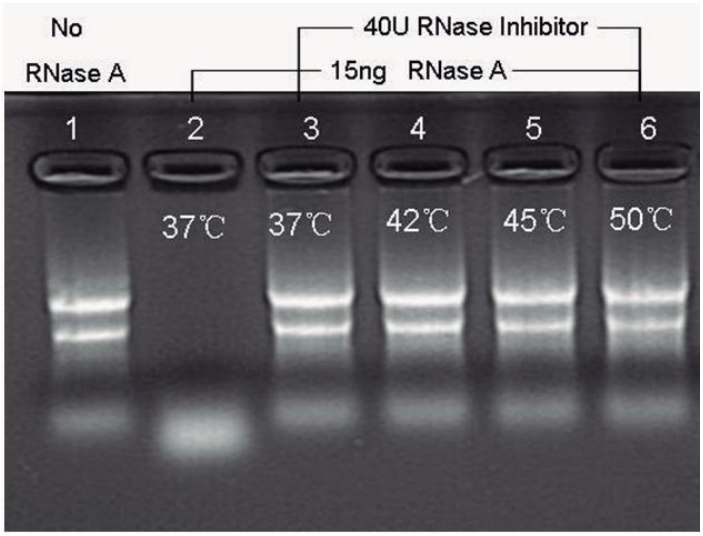

Figure 2: RNase Inhibitor can protect RNA from degradation by RNase A at up to 50℃.

1. Total RNA from mouse liver tissue
2. Total RNA and 15 ng RNase A

3~6. Total RNA and 15 ng RNase A with 40 U RNase Inhibitor at different temperatures

IV. Limited Use License and Warranty

Limited Use License

The following terms and conditions apply to the use of RNaseLock® RNase Inhibitor (the Product). If the terms and conditions are not acceptable, the Product in its entirety must be returned to GeneCopoeia within 5 calendar days. A limited End-User license is granted to the purchaser of the Product. The Product shall be used by the purchaser for internal research purposes only. The Product is expressly not designed, intended, or warranted for use in humans or for therapeutic or diagnostic use. The Product must not be resold, repackaged, or modified for resale, or used to manufacture commercial products without prior written consent from GeneCopoeia. This Product should be used in accordance with the NIH guidelines developed for recombinant DNA and genetic research. Use of any part of the Product constitutes acceptance of the above terms.

Limited Warranty

GeneCopoeia warrants that the Product meets the specifications described in the accompanying Product Datasheet. If it is proven to the satisfaction of GeneCopoeia that the Product fails to meet these specifications, GeneCopoeia will replace the Product. In the event a replacement cannot be provided, GeneCopoeia will provide the purchaser with a refund. This limited warranty shall not extend to anyone other than the original purchaser of the Product. Notice of nonconforming products must be made to GeneCopoeia within 30 days of receipt of the Product. GeneCopoeia's liability is expressly limited to replacement of Product, or a refund limited to the actual purchase price. GeneCopoeia's liability does not extend to any damages arising from use or improper use of the Product, or losses associated with the use of additional materials or reagents. This limited warranty is the sole and exclusive warranty. GeneCopoeia does not provide any other warranties of any kind, expressed or implied, including the merchantability or fitness of the Product for a particular purpose.

GeneCopoeia is committed to providing our customers with high-quality products. If you should have any questions or concerns about any GeneCopoeia products, please contact us at 301-762-0888.

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