**RNase Inhibitor (Cloned) MR1122**

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**Technical literature is available at:** [**www.mesgenbio.com**](http://www.mesgenbio.com)**. E-mail MesGen Technical Services if you have questions on use of this system: tech@mesgenbio.com**

**Product overview**

RNase Inhibitor, a recombinant human protein produced in E. coli, is a potent inhibitor of neutral pancreatic ribonucleases, including RNases A, B, and C. The mode of inhibition is noncompetitive; the inhibitor tightly binds RNases in a 1:1 ratio. The enzyme has been shown to inactivate a variety of RNases that are present in many tissues and cell types. RNase Inhibitor does not inhibit RNase T1, RNase 1, RNase H, S1 Nuclease, or RNase from Aspergillus.

**Source**

Recombinant E. coli strain

**Unit definition**

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

**Storage buffer (not included)**

20 mM HEPES-KOH (pH 7.6). 50 mM KCl, 5 mM DTT and 50% (v/v) glycerol. If opened frequently during storage, we recommend adding DTT to maintain the optimal 5 mM level.

**Using RNase Inhibitor**

Addition of RNase Inhibitor has been shown to be useful whenever the integrity of RNA must be maintained, such as in the preparation of cDNA by reverse transcription, in vitro RNA transcription, and in vitro protein synthesis. RNase Inhibitor requires a minimum of 1 mM DTT to maintain activity and requires a pH of 5-8, with maximal activity between pH 7 and 8. Since the mode of inhibition is the formation of a 1:1 complex with RNases, avoid denaturation or oxidation of RNase Inhibitor, which would result in the release of active RNase. The half-life of RNase Inhibitor : RNase A binding is approximately 8 hr.

**Guidelines for RNA transciption, protein translation, and cDNA synthesis**

Add RNase Inhibitor to transcription, translation, and cDNA synthesis reactions at a final concentration of 1 U/μL. RNase Inhibitor requires a minimum of 1 mM DTT and is active over a broad pH range. Avoid denaturation of RNase Inhibitor by SDS, urea, etc., which could result in a release of active RNases.

**Store condition**

Store at -20°C. Do not store in a frost-free freezer.

***For Research Use Only. Not For Use In Diagnostic Procedures.***