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Product Information

Ribonuclease Inhibitor, recombinant, expressed in *E. coli*

Catalog Number **R1158**
Storage Temperature –20 °C

Product Description

Ribonuclease Inhibitor, recombinant is derived from *E. coli* cells expressing a recombinant clone containing portions of the human placental ribonuclease inhibitor. The protein has a molecular mass of ~50 kDa by SDS-PAGE.[1] Inhibition of ribonuclease activity occurs by the formation of a tight, non-covalent 1:1 complex having a dissociation constant (K_i) of 4×10^{-14} M.[1-3] Uses include *in vitro* inhibition of ribonucleases in procedures such as cDNA synthesis from mRNA, *in vitro* transcription/ translation reactions,[3] ribonuclease protection assays,[4] and RT-PCR.[5] While this Ribonuclease Inhibitor inhibits RNase A, RNase B, and RNase C, it does not inhibit RNase H, RNase 1, RNase T1, S1 Nuclease, SP6, T7 or T3 RNA Polymerase, AMV or M-MLV Reverse Transcriptase, or *Taq* Polymerase.

The pH range for inhibition is pH 5.5–9 (highest inhibition at pH 7–8).[6] The concentration for use is 250–1000 units/mL.[7] Denaturing conditions (i.e., urea or temperatures ≥50 °C) should be avoided as they may cause release of active ribonuclease from the complex. The Ribonuclease Inhibitor may be removed by phenol extraction or inactivated by heating at 65 °C for 10 minutes.

This product is supplied in a solution containing 20 mM HEPES-KOH, pH 7.6, with 50 mM KCl, 8 mM DTT, and 50% (v/v) glycerol.

Activity: 20–40 units/µL.

Unit definition: One unit will cause the inhibition of 50% of the activity of 5 ng of ribonuclease A in a cytidine 2′,3′-cyclic monophosphate system.[8]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

This product ships on dry ice and storage at –20 °C is recommended.

References

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