3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Ribonuclease Inhibitor, human

Catalog Number **R2520**
Storage Temperature –20 °C

Product Description

Ribonuclease Inhibitor from human placenta is a protein with 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, S1 Nuclease, SP6, T7 or T3 RNA Polymerase, AMV or M-MLV Reverse Transcriptase, RNase 1, RNase T1, or Taq Polymerase.

The pH range for inhibition is pH 5–9 (highest inhibition at pH 7–8).[6] Typical 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 isolated from human placenta and supplied in a solution containing 20 mM HEPES-KOH, pH 7.6, with 50 mM KCl, 8 mM DTT, and 50% (v/v) glycerol.

Specific activity: 30,000–50,000 units/ml

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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