RNase Inhibitor, Human Placenta

1-800-632-7799
info@neb.com
www.neb.com

M0307S 019120314031

M0307S

2,000 units **40,000 U/ml** **Lot: 0191203**

RECOMBINANT **Store at –20°C** **Exp: 3/14**

Description: RNase Inhibitor, Human Placenta is a recombinant human placental protein which specifically inhibits ribonucleases (RNases) A, B and C (1). It is **not** effective against RNase 1, RNase T1, S1 Nuclease, RNase H or RNase from *Aspergillus.* In addition, no inhibition of polymerase activity is observed when RNase Inhibitor, Human Placenta is used with *Taq* DNA Polymerase, AMV or M-MuLV Reverse Transcriptases, or Phage RNA Polymerases (SP6, T7, or T3).

The 50 kDa protein inhibits RNases by binding noncovalently in a 1:1 ratio with an association constant greater than 10^{14} (2).

Source: An *E. coli* strain that carries the Ribonuclease Inhibitor gene from human placenta.

Supplied in: 50 mM KCl, 20 mM HEPES-KOH (pH 7.6), 8 mM DTT and 50% glycerol.

Unit Definition: One unit is defined as the amount of RNase Inhibitor, Human Placenta required to inhibit the activity of 5 ng of RNase A by 50%. Activity is measured by the inhibition of hydrolysis of cytidine 2, 3´-cyclic monophosphate by Rnase A.

Quality Control Assays

Endonuclease Activity: Incubation of 200 units of RNase Inhibitor, Human Placenta with supercoiled plasmid produced no nicked molecules after a two hour incubation at 37°C as determined by gel electrophoresis.

Ribonuclease Assay: Incubation of 200 units of RNase Inhibitor, Human Placenta with 1 µg of RNA at 37°C for 1 hour resulted in no detectable degradation of RNA as determined by gel electrophoresis.

DNase Assay: Incubation of 200 units of RNase Inhibitor, Human Placenta for 1 hour at 37°C with 50 ng of radiolabeled DNA released < 3% of the radioactivity.

Notes On Use: Since ribonucleases typically retain activity under denaturing conditions, care must be taken to avoid denaturing RNase Inhibitor molecules which have complexed with a ribonuclease. To prevent the release of active ribonuclease, temperatures greater than 50°C and high concentrations of urea or other denaturing agents should be avoided.

References:

1. Blackburn, P. and Moore, S. (1982) *Pancreatic Ribonucleases,* In: *The Enzymes,* Vol XV, Part B Academic Press, N.Y.
2. Blackburn, P., Wilson, G. and Moore, S. (1977) *J. Biol. Chem.* 252, 5904.

CERTIFICATE OF ANALYSIS

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