

## New England Biolabs Product Specification

**Product Name:** *RNase Inhibitor, Human Placenta*

**Catalog #:** *M0307S/L*

**Concentration:** *40,000 units/ml*

**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.*

**Shelf Life:** *24 months*

**Storage Temp:** *-20 °C*

**Storage Conditions:** *50 mM KCl, 20 mM HEPES (pH 7.6), 8 mM DTT, 50 % Glycerol*

**Specification Version:** *PS-M0307S/L v1.0*

**Effective Date:** *14 Nov 2013*

### Assay Name/Specification (minimum release criteria)

**Endonuclease Activity (Nicking)** - A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 40 units of RNase Inhibitor, Human Placenta incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

**Exonuclease Activity (Radioactivity Release)** - A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] *E. coli* DNA and a minimum of 200 units of RNase Inhibitor, Human Placenta incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

**Latent RNase Activity (Extended Digest)** - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 40 units of heat inactivated RNase Inhibitor, Human Placenta is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

**Protein Purity Assay (SDS-PAGE)** - RNase Inhibitor, Human Placenta is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

**RNase Activity (Extended Digestion)** - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 40 units of RNase Inhibitor, Human Placenta is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.



Derek Robinson  
Director of Quality Control

Date 14 Nov 2013

