

## New England Biolabs Certificate of Analysis

*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.  
*Lot #:* 0321511  
*Assay Date:* 11/2015  
*Expiration Date:* 11/2017  
*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:* 04 Aug 2014

Assay Name/Specification (minimum release criteria)	Lot #0321511
<b>Endonuclease Activity (Nicking)</b> - 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.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> 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.	<b>Pass</b>
<b>Latent RNase Activity (Extended Digest)</b> - 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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - RNase Inhibitor, Human Placenta is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<b>RNase Activity (Extended Digestion)</b> - 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.	<b>Pass</b>



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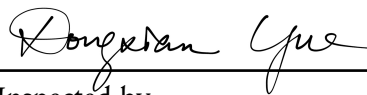
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Authorized by  
Derek Robinson  
04 Aug 2014





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Inspected by  
Dongxian Yue  
16 Nov 2015