

## New England Biolabs Certificate of Analysis

**Product Name:** *RNase Inhibitor, Human Placenta*  
**Catalog Number:** *M0307S*  
**Concentration:** *40,000 U/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.*  
**Packaging Lot Number:** *10106729*  
**Expiration Date:** *07/2023*  
**Storage Temperature:** *-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*

RNase Inhibitor, Human Placenta Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0307SVIAL	RNase Inhibitor, Human Placenta	10109063	Pass

Assay Name/Specification	Lot # 10106729
<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.	Pass
<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] 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.	Pass
<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.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b>	Pass

Assay Name/Specification	Lot # 10106729
<p>RNase Inhibitor, Human Placenta is <math>\geq 95\%</math> pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> <p><b>RNase Activity (Extended Digestion)</b> A 10 <math>\mu</math>l 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, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<p><b>Pass</b></p>

This product has been tested and shown to be in compliance with all specifications.

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