**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 #:** 0321610  
**Assay Date:** 10/2016  
**Expiration Date:** 10/2018  
**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

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<table>
<thead>
<tr>
<th>Assay Name/Specification (minimum release criteria)</th>
<th>Lot #0321610</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Endonuclease Activity (Nicking)</strong> - 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 &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</td>
<td><strong>Pass</strong></td>
</tr>
<tr>
<td><strong>Exonuclease Activity (Radioactivity Release)</strong> - A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 200 units of RNase Inhibitor, Human Placenta incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</td>
<td><strong>Pass</strong></td>
</tr>
<tr>
<td><strong>Latent RNase Activity (Extended Digest)</strong> - 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, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</td>
<td><strong>Pass</strong></td>
</tr>
<tr>
<td><strong>Protein Purity Assay (SDS-PAGE)</strong> - RNase Inhibitor, Human Placenta is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</td>
<td><strong>Pass</strong></td>
</tr>
<tr>
<td><strong>RNase Activity (Extended Digestion)</strong> - 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, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</td>
<td><strong>Pass</strong></td>
</tr>
</tbody>
</table>

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**Authorized by**  
Derek Robinson  
04 Aug 2014

**Inspected by**  
Dongxian Yue  
26 Oct 2016