Product Name: Shrimp Alkaline Phosphatase (rSAP)
Catalog Number: M0371S
Concentration: 1,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that hydrolyzes 1 µmol of p-Nitrophenyl Phosphate, PNPP in a total reaction volume of 1 ml in 1 minute at 37°C
Lot Number: 10008070
Expiration Date: 05/2020
Storage Temperature: -20°C
Storage Conditions: 25 mM Tris-HCl, 1 mM MgCl2, 50 % Glycerol, (pH 7.5 @ 25°C)
Specification Version: PS-M0371S/L v1.0

Shrimp Alkaline Phosphatase (rSAP) Component List

<table>
<thead>
<tr>
<th>NEB Part Number</th>
<th>Component Description</th>
<th>Lot Number</th>
<th>Individual QC Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>M0371SVIAL</td>
<td>Shrimp Alkaline Phosphatase (rSAP)</td>
<td>10008071</td>
<td>Pass</td>
</tr>
<tr>
<td>B7204SVIAL</td>
<td>CutSmart® Buffer</td>
<td>3061804</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Assay Name/Specification

**Endonuclease Activity (Nicking)**
A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 5 units of Shrimp Alkaline Phosphatase (rSAP) 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 CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [³²H] E. coli DNA and a minimum of 10 units of Shrimp Alkaline Phosphatase (rSAP) incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

**Non-Specific DNase Activity (16 Hour)**
A 50 µl reaction in NEBuffer 4 containing 1 µg of PhiX174-HaeIII DNA and a minimum of 10 units of Shrimp Alkaline Phosphatase (rSAP) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**Protein Purity Assay (SDS-PAGE)**
Pass
<table>
<thead>
<tr>
<th><strong>Assay Name/Specification</strong></th>
<th><strong>Lot # 10008070</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrimp Alkaline Phosphatase (rSAP) is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</td>
<td>Pass</td>
</tr>
</tbody>
</table>

**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 1 µl of Shrimp Alkaline Phosphatase (rSAP) is incubated at 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

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

Heidi Church  
Production Scientist  
23 May 2018

Michael Tonello  
Packaging Quality Control Inspector  
24 May 2018