

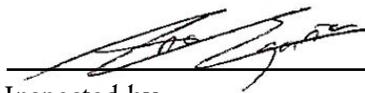
## New England Biolabs Certificate of Analysis

*Product Name:* Shrimp Alkaline Phosphatase (rSAP)  
*Catalog #:* M0371S/L  
*Concentration:* 1,000 units/ml  
*Unit Definition:* One unit is defined as the amount of enzyme that hydrolyzes 1  $\mu$ mol of p-Nitrophenyl Phosphate, PNPP in a total reaction volume of 1 ml in 1 minute at 37°C  
*Lot #:* 0031612  
*Assay Date:* 12/2016  
*Expiration Date:* 12/2018  
*Storage Temp:* -20°C  
*Storage Conditions:* 25 mM Tris-HCl, 1 mM MgCl<sub>2</sub>, 50 % Glycerol, (pH 7.5 @ 25°C)  
*Specification Version:* PS-M0371S/L v1.0  
*Effective Date:* 07 Jul 2016

Assay Name/Specification (minimum release criteria)	Lot #0031612
<b>Endonuclease Activity (Nicking)</b> - A 50 $\mu$ l reaction in CutSmart® Buffer containing 1 $\mu$ g 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.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 $\mu$ l reaction in CutSmart® Buffer containing 1 $\mu$ g of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> 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.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> - A 50 $\mu$ l reaction in NEBuffer 4 containing 1 $\mu$ g 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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - Shrimp Alkaline Phosphatase (rSAP) is $\geq$ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<b>RNase Activity (Extended Digestion)</b> - A 10 $\mu$ l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 $\mu$ l of Shrimp Alkaline Phosphatase (rSAP) is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	<b>Pass</b>



Authorized by  
Derek Robinson  
07 Jul 2016



Inspected by  
Ana Egana  
08 Dec 2016

