

New England Biolabs Product Specification

Product Name:	<i>Shrimp Alkaline Phosphatase (rSAP)</i>
Catalog #:	M0371S/L
Concentration:	1,000 units/ml
Unit Definition:	One unit is defined as the amount of enzyme that hydrolyzes 1 μmol of <i>p</i> -Nitrophenyl Phosphate, PNPP in a total reaction volume of 1 ml in 1 minute at 37°C
Shelf Life:	24 months
Storage Temp:	-20°C
Storage Conditions:	25 mM Tris-HCl, 1 mM MgCl ₂ , 50 % Glycerol, (pH 7.5 @ 25°C)
Specification Version:	PS-M0371S/L v1.0
Effective Date:	06 Jul 2016

Assay Name/Specification (minimum release criteria)

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 [³H] *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) - Shrimp Alkaline Phosphatase (rSAP) is \geq 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

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 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.



Date 06 Jul 2016

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Director of Quality Control

