



Shrimp Alkaline Phosphatase (rSAP)

Pandalus borealis
recombinant, *Pichia pastoris*

Cat. No.	Amount
EN-174S	400 Units
EN-174L	5 x 400 Units

Unit Definition: One unit of rSAP releases 1 μmol phosphate/min from 4-nitrophenyl phosphate in 0.1 M glycine-NaOH pH 10.4, 1 mM MgCl_2 , 1 mM ZnCl_2 and 6 mM 4-nitrophenyl phosphate.

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at $-20\text{ }^\circ\text{C}$

Shelf Life: 12 months

Purity: > 95 % (SDS-PAGE)

Form: liquid

Concentration: 1 unit/ μl

Description:

Recombinant Shrimp Alkaline Phosphatase is a multipurpose alkaline phosphatase that can be fully inactivated by a short heat treatment. This property simplifies most workflows involving alkaline phosphatase treatment. The recombinant form of SAP replaces the native form that has been established on the market for several years. rSAP has all the properties of the well proven SAP, but with additional benefits. rSAP is far more stable at ambient temperature, it is of high, consistent purity, and is available in large batches at high concentration.

- Heat-labile, all-purpose alkaline phosphatase
- Fast and easy dephosphorylation of DNA, RNA and nucleotides
- Active in most restriction enzyme buffers, no need for extra addition of buffer or ions
- Excellent stability at $4\text{ }^\circ\text{C}$ and even room temperature

Heat inactivation:

rSAP is completely inactivated by a 5 min incubation at $65\text{ }^\circ\text{C}$.

Absence of contaminants:

Tested for the absence of exonucleases and endonucleases.

Activity:

Optimum working range is between pH 7-9. rSAP is active in most restriction- and PCR-buffers. Mg^{2+} (>1 mM) is required for activity.

Related Products:

Exonuclease I, #EN-177

SAP-Exo Kit, #PP-218

Selected References:

Chakraborty *et al.* (2011) Active site detection by spatial conformity and electrostatic analysis-unravelling a proteolytic function in shrimp alkaline phosphatase. *PLoS One*. **6**: e28470.

de Bakker *et al.* (2002) The 1.9 Å crystal structure of heat-labile shrimp alkaline phosphatase. *J Mol Biol*. **18**:1265.

Nilsen *et al.* (2001) Thermolabile alkaline phosphatase from Northern shrimp (*Pandalus borealis*): protein and cDNA sequence analyses. *Comp Biochem Physiol B Biochem Mol Biol*. **129**:853.