Shrimp Alkaline Phosphatase, recombinant (rSAP)

- Heat-labile, all-purpose alkaline phosphatase
- Completely inactivated after 5 min at 65°C
- Fast and easy dephosphorylation of DNA, RNA and nucleotides

Properties

Recombinant Shrimp Alkaline Phosphatase is a multi-purpose alkaline phosphatase that can be fully inactivated by a short heat treatment (fig.1). This property simplifies most workflows involving alkaline phosphatase treatment.

The recombinant for of SAP replaces the native form of SAP 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 (fig.2), is also of high, consistent purity, and is available in large batches at high concentration.

Source: Arctic shrimp origin, recombinantly produced in Pichia pastoris.

Activity: Optimum working range for rSAP is between pH 7-9. rSAP is active in most restriction and PCR buffers. Mg²⁺ (>1 mM) is required for activity.

Heat inactivation: rSAP is completely inactivated by a 5 min incubation at 65°C.

Storage: Minimum shelf life is 2 years at -20°C. Storage at 4°C is possible for at least 6 months and 3 months at 25°C. The enzyme also tolerates multiple freeze-thaw cycles.

Purity: rSAP is highly pure and is tested free of contaminating nucleases.

Specific activity: > 2000 Units/mg.

Unit definition: One unit of rSAP release 1 µmol phosphate/min from 4-nitrophenyl phosphate in 0.1 M glycine-NaOH pH 10.4, 1 mM MgCl₂, 1 mM ZnCl₂ and 6 mM 4-nitrophenyl phosphate.

Easy and quick heat-inactivation

![Figure 1: Heat inactivation of SAP at 65°C and 70°C](image)

Stable at room temperature

![Figure 2: Stability of rSAP at room temperature](image)
Workflows

For more information visit: www.arcticzymes.com/rsap

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