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ArcticZymes®

Shrimp Alkaline Phosphatase (SAP)

ArcticZymes' Shrimp Alkaline Phosphatase (SAP) is the only heat labile, all-purpose alkaline phosphatase purified from a recombinant source and originally isolated from *Pandalus borealis* (arctic shrimp). The recombinant production leads to increased storage stability, low batch-to-batch variations and high specific activity. For added flexibility, when lyophilization may be desired, SAP is also available in a glycerol-free format.

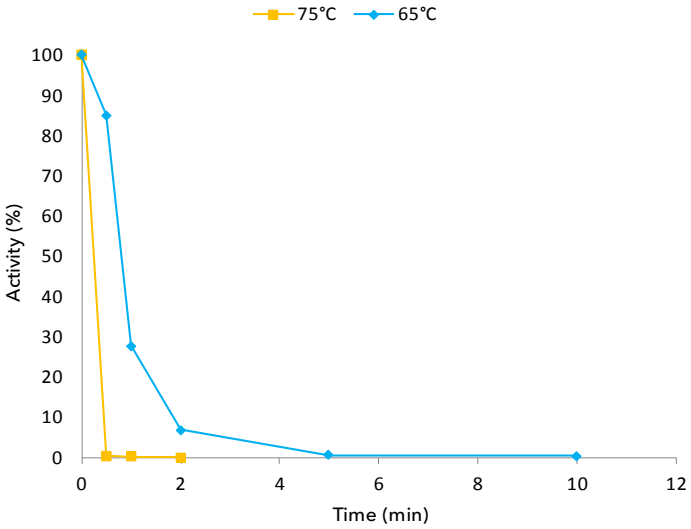

Figure 1: Heat inactivation of SAP at 65°C and 75°C

SAP is useful in many molecular biology applications by offering fast and easy dephosphorylation of DNA, RNA and nucleotides. SAP is also active in most restriction enzyme buffers and is completely and irreversibly inactivated after 5 minutes at 65°C (figure 1). This property simplifies most workflows involving alkaline phosphatase treatment.

Cloning

SAP offers greater convenience to cloning procedures, since the enzyme may be completely inactivated by a simple heating step. SAP is active in all buffers used for restriction enzymes, and can be added either during restriction digestion, or directly after. With SAP, the user can forget elaborate calculations and multi-step incubations, because the enzyme completely dephosphorylates DNA during one, simple, incubation.

Enzymatic cleanup of PCR products before sequencing

Enzymatic cleanup of a PCR product before sequencing eliminates the need for time-consuming purification via gels, columns or beads. Simply add SAP and Exonuclease I to your PCR-product and incubate at 37°C for 10 minutes to digest excess primers and nucleotides. Both enzymes are finally inactivated by heating, and the PCR-product is ready for sequencing. The treatment can be done in a single reaction tube, so no further processing is necessary. This enzymatic protocol yields 100% product recovery even for very short PCR products. This PCR cleanup-protocol may also be useful in genotyping and mass spectrometry-based assays.

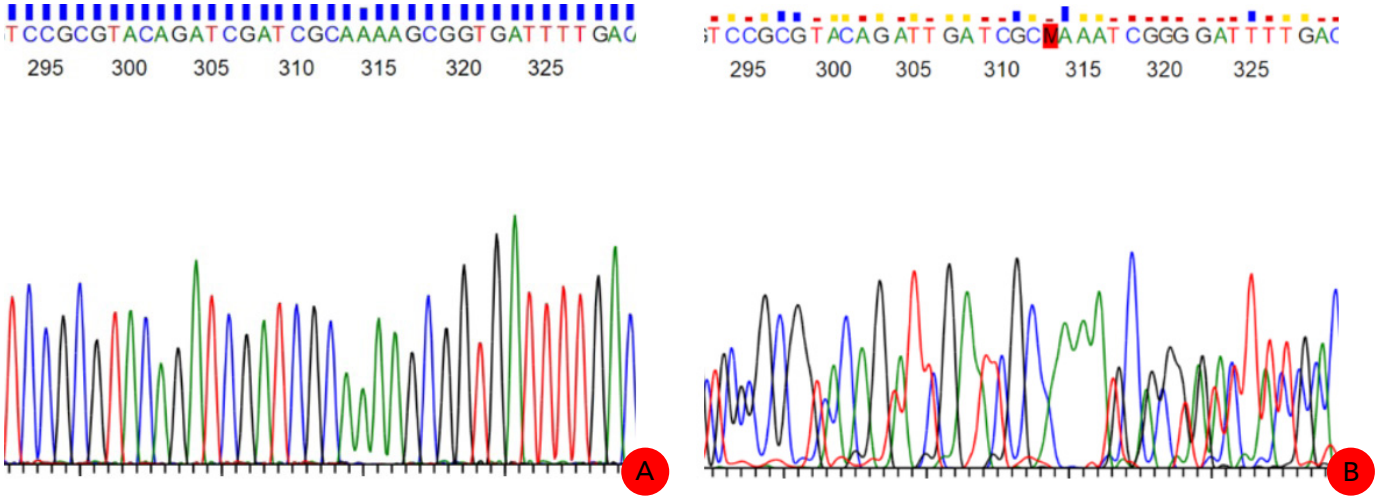

Figure 2: PCR cleanup is important prior to sequencing. Panel A shows a sample that has undergone treatment with SAP and Exonuclease I, while panel B shows a sample without this treatment. Treatment with SAP and Exonuclease I resulted in significant improvement in overall sequence quality.

Quality

ArcticZymes is dedicated to the quality of our products and are certified according to ISO 13485.

Additional information

We are pleased to provide data and information relating to SAP. Available data includes; stability, buffer storage conditions, pH, specific activity data. For more information please check out our website www.arcticzymes.com.

ArcticZymes offer the convenience of providing standard bulk enzymes as off the shelf products. In addition, ArcticZymes offers our enzymes in customized formats. Please contact for additional information.

Ordering information

Product name	Catalogue #	Concentration	Size	Inactivation
SAP	70700-201	1 U/µ1	1000 U	5 min at 65°C
SAP	70700-202	1 U/µ1	5000 U	5 min at 65°C
SAP Glycerol-free	70710-201	>20 U/µl	5000 U	5 min at 65°C

Your OEM partner to deliver novel solutions for genomics and proteomics

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