

# USB® rShrimp Alkaline Phosphatase



- Purified from a recombinant source
- 100% heat-inactivated in 5 min at 65°C (Fig. 1)
- Exceptional stability at temperatures below 37°C (Fig. 2)
- Very high specific activity

## USB rShrimp Alkaline Phosphatase

rShrimp Alkaline Phosphatase (rSAP) is a high specific activity, heat-labile alkaline phosphatase purified from a recombinant source and originally isolated from *Pandalus borealis* (Arctic Shrimp). rSAP is useful in many molecular biology applications such as the dephosphorylation of phosphorylated ends of DNA or RNA for subsequent use in cloning or end-labeling of probes. In cloning, dephosphorylation prevents religation of linearized plasmid DNA. rSAP may also be used to degrade unincorporated dNTPs in PCR reactions to prepare templates for DNA sequencing or SNP analysis.

rSAP has approximately the same specific activity as Calf Intestinal Alkaline Phosphatase (CIAP), and like CIAP, is active in virtually all restriction enzyme reaction buffers. Unlike CIAP, rSAP is completely and irreversibly inactivated by heating reactions at 65°C for 15 min.

rSAP is particularly useful in preparing PCR products for applications involving sequencing, SNP analysis or labeling methods. Typically, excess dNTPs remaining after PCR interfere with subsequent enzymatic reactions involving DNA synthesis. rSAP dephosphorylates all of the remaining dNTPs from the PCR mixture in one easy step.

USB ExoSAP-IT® (PN 78200) utilizes rSAP and Exonuclease I together in a specially formulated buffer to degrade residual primers and other single-stranded DNA as well as dNTPs. This eliminates the need for alternative purification methods, such as columns, gels or magnetic separations. The purchase of ExoSAP-IT provides a license to the methods of PCR cleanup using Exonuclease I and SAP.

Product Code	Pack Size
78390	500 units
	1,000 units
	5,000 units

Fig. 1. Heat inactivation profile

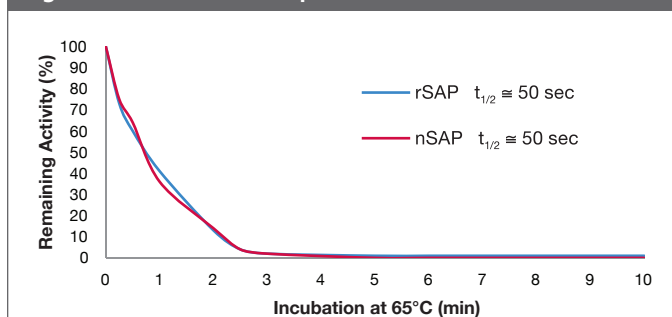
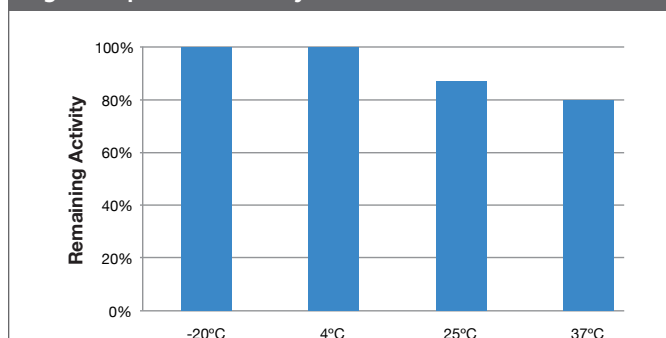


Fig. 2. Improved stability of rSAP



## USB® Products

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ExoSAP-IT - is covered by U.S. Patent Numbers: 6,379,940 and 6,387,634.