



## rSAP

Concentration: 1 unit/ $\mu$ l

Cat. No.: A650103  
750 Units



A650103

MADE IN DENMARK

-	rSAP 1 U/ $\mu$ l
ID No.	7200300
Cap colour	Yellow
Content	1 x 0.75 ml

### Key Features

- Dephosphorylation of 5' and 3' ends of DNA and RNA
- Degradation of dNTPs prior to sequencing or SNP analysis
- Dephosphorylation prevents ligation of linearized DNA
- Dephosphorylation of DNA prior to end-labelling using T4 Polynucleotide Kinase
- Specific activity  $\geq$  2 000 U/mg

Recombinant Shrimp Alkaline Phosphatase (rSAP) is a heat labile alkaline phosphatase purified from *Pichia pastoris*, carrying the shrimp alkaline phosphatase gene from *Pandalus borealis*. rSAP is completely and irreversibly inactivated by heating at 65°C for 5 minutes, thereby making removal of rSAP prior to ligation or end-labelling unnecessary. Optimum working range for rSAP is between pH 7-9. rSAP is active in most restriction and PCR buffers.  $Mg^{2+}$  (>1 mM) is required for activity.

### Components

#### Ampliqon rSAP in storage buffer

- rSAP 1 unit/ $\mu$ l, 25 mM Tris-HCl, pH 7.6 at 4 °C, 5 mM  $MgCl_2$ , glycerol 50% (v/v)

#### Recommended Storage and Stability

Long term storage at -20 °C. Product expiry at -20 °C is stated on the label.

#### Unit Definition

One unit is defined as the amount of enzymes converting 1  $\mu$ mol of p-nitrophenyl phosphate per minute to nitrophenol and phosphate at 37°C and pH 10.4 in 0.1 M glycine buffer, 1 mM each of  $ZnCl_2$  and  $MgCl_2$  and 6 mM 4-nitrophenyl phosphate.

#### Quality Control

rSAP is tested for double stranded and single stranded endonuclease activity. Furthermore, the activity of rSAP is measured. rSAP is functionally tested (together with HL-ExoI) by spiking a PCR product with dNTPs and primers followed by Sanger sequencing.

#### Applications

- Removal of phosphorylated ends of DNA and RNA for downstream applications such as cloning or end-labelling of probes. Dephosphorylation prevents ligation of linearized DNA. rSAP acts on 3' protruding, 5' protruding, 5' recessed and blunt ends.
- Degradation of unincorporated dNTPs in PCR reactions to prepare templates for DNA sequencing or SNP analysis.

### Related Products

<b>rSAP 1 units/<math>\mu</math>l</b>	<b>Cat. No.</b>
• 150 Units	A650101
<b>HL-ExoI 20 units/<math>\mu</math>l</b>	<b>Cat. No.</b>
• 1000 Units	A640103
• 5000 Units	A640107
<b>PureIT ExoZAP PCR CleanUp Kit</b>	<b>Cat. No.</b>
• 500 reactions	A630203
• 5000 reactions	A630207
<b>PureIT ExoZAP PCR CleanUp</b>	<b>Cat. No.</b>
• 500 reactions	A620603
• 5000 reactions	A620607
<b>Taq Polymerase (500 units) *</b>	<b>Cat. No.</b>
Taq DNA Polymerase 5 U/ $\mu$ l	A110003
• with 10x Ammonium Buffer	A111103
• with 5x PCR Buffer RED	A111803
Taq DNA Polymerase 5 U/ $\mu$ l, RED	A200003
• with 10x Ammonium Buffer	A201103
Taq DNA Polymerase 5 U/ $\mu$ l, glycerol free	A100003
• with 10x Ammonium Buffer	A101103
<b>Hot Start Polymerase (500 units) *</b>	<b>Cat. No.</b>
TEMPase Hot Start DNA Polymerase, 5 U/ $\mu$ l	A220003
• with 10x Ammonium Buffer	A221103
• 5x PCR Buffer RED	A221803
TEMPase Hot Start DNA Polymerase, glycerol free 5 U/ $\mu$ l	A240003
• with 10x Ammonium Buffer	A241103
*Available in kits including one or two buffers (Ammonium Buffer, Standard Buffer or Combination Buffer).	
<b>Buffers for DNA polymerases *</b>	<b>Cat. No.</b>
10x Ammonium Buffer, 3 x 1.5 ml	A301103
10x Standard Buffer, 3 x 1.5 ml	A302103
10x Combination Buffer, 3 x 1.5 ml	A303103
5x PCR Buffer RED, 3 x 1,5 ml **	A301803
*Ammonium Buffer, Standard Buffer and Combination Buffer are also available as $Mg^{2+}$ free buffers, detergent free buffers and $Mg^{2+}$ and detergent free buffers.	
**For direct gel loading and visualisation.	
<b>Taq Master Mixes (500 x 50 <math>\mu</math>l reactions) *</b>	<b>Cat. No.</b>
2x Master Mix, 1.5 mM $MgCl_2$ final concentration	A140303
2x OptiMix CLEAR, 1.5 mM $MgCl_2$ final concentration	A370503
2x Master Mix RED, 1.5 mM $MgCl_2$ final concentration	A180303
<b>TEMPase Hot Start Master Mixes (500 x 50 <math>\mu</math>l reactions) *</b>	<b>Cat. No.</b>
2x Master Mix A**, 1.5 mM $MgCl_2$ final concentration	A230303
2x Master Mix A**BLUE, 1.5 mM $MgCl_2$ final concentration	A290403
*Master mixes available also in 1.1x variants as well as 2 mM $MgCl_2$ variants, **Mix A is Ammonium Buffer based, also available as Mix C based on Combination Buffer.	
<b>Special Master Mixes (500 x 50 <math>\mu</math>l reactions)</b>	<b>Cat. No.</b>
Multiplex 2x Master Mix, 3 mM $MgCl_2$ final concentration	A260303
GC TEMPase 2x Master Mix I – for GC-rich templates	A331703
GC TEMPase 2x Master Mix II – for GC-rich templates	A332703
<b>Real-time PCR Master Mixes (400 x 25 <math>\mu</math>l reactions)</b>	<b>Cat. No.</b>
RealQ Plus 2x Master Mix for probe,	
• without ROX™	A313402
• with low ROX™	A314402
• with high ROX™	A315402
RealQ Plus 2x Master Mix Green	
• without ROX™	A323402
• with low ROX™	A324402
• with high ROX™	A325402

Reagents for *in vitro* laboratory use only.

Other product sizes, combinations and customized solutions are available. Please look at [www.ampliqon.com](http://www.ampliqon.com) or ask for our complete product list for PCR Enzymes. For customized gel solutions please contact us.