AMPLIQON
PCR ENZYMES & REAGENTS

- 20 °C

# rSAP

**Concentration: 1 unit/µl**

**Cat. No.: A650101**
**150 Units**

A650101

MADE IN **DENMARK**

| - | rSAP 1 U/µl |
|---|---|
| **ID No.** | **7200300** |
| **Cap colour** | **Yellow** |
| **Content** | 1 x 0.15 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 ≥ 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-labeling 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/µl, 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 µmol 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-labeling 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

| rSAP 1 units/µl | Cat. No. |
|---|---|
| • 750 Units | **A650103** |

| HL-ExoI 20 units/µl | Cat. No. |
|---|---|
| • 1000 Units | **A640103** |
| • 5000 Units | **A640107** |

| PureIT ExoZAP PCR CleanUp Kit | Cat. No. |
|---|---|
| • 500 reactions | **A630203** |
| • 5000 reactions | **A630207** |

| PureIT ExoZAP PCR CleanUp | Cat. No. |
|---|---|
| • 500 reactions | **A620603** |
| • 5000 reactions | **A620607** |

| Taq Polymerase (500 units) * | Cat. No. |
|---|---|
| Taq DNA Polymerase 5 U/µl | **A110003** |
| • with 10x Ammonium Buffer | **A111103** |
| • with 5x PCR Buffer RED | **A111803** |
| Taq DNA Polymerase 5 U/µl, RED | **A200003** |
| • with 10x Ammonium Buffer | **A201103** |
| Taq DNA Polymerase 5 U/µl, glycerol free | **A100003** |
| • with 10x Ammonium Buffer | **A101103** |

| Hot Start Polymerase (500 units) * | Cat. No. |
|---|---|
| TEMPase Hot Start DNA Polymerase, 5 U/µl | **A220003** |
| • with 10x Ammonium Buffer | **A221103** |
| • 5x PCR Buffer RED | **A221803** |
| TEMPase Hot Start DNA Polymerase, glycerol free 5 U/µl | **A240003** |
| • with 10x Ammonium Buffer | **A241103** |

*Available in kits including one or two buffers (Ammonium Buffer, Standard Buffer or Combination Buffer).

| Buffers for DNA polymerases * | Cat. No. |
|---|---|
| 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.

| Taq Master Mixes (500 x 50 µl reactions) * | Cat. No. |
|---|---|
| 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** |

| TEMPase Hot Start Master Mixes (500 x 50 µl reactions) * | Cat. No. |
|---|---|
| 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.

| Special Master Mixes (500 x 50 µl reactions) | Cat. No. |
|---|---|
| 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** |

| Real-time PCR Master Mixes (400 x 25 µl reactions) | Cat. No. |
|---|---|
| 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 or ask for our complete product list for PCR Enzymes. For customized solutions please contact us.

**Made in Denmark**
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