For general laboratory use.

**Phosphatase, alkaline**

From calf intestine  
*Orthophosphoric-monoester phosphohydrolase*  
(alkaline optimum)

Cat. No. 10 713 023 001  1,000 U (1 U/μl)  
Cat. No. 11 097 075 001  1,000 U (20 U/μl)

**Product Overview**

**Content**

| Alkaline Phosphatase | 1,000 U (1 U/μl),  
(\text{Cat. No. 10 713 023 001})  
1,000 U (20 U/μl),  
(\text{Cat. No. 11 097 075 001})  
| 25 mM Tris-\(\text{HCl}\), 1 mM \(\text{MgCl}_2\), 0.1 mM ZnCl\(_2\), 50% \text{glycerol (w/v)}, pH 7.6 (+4°C). |

D Dephosphorylation Buffer 10x  
0.5 M Tris-\(\text{HCl}\), 1 mM EDTA, pH 8.5 (+20°C)

**Unit definition**

Alkaline Phosphatase is assayed according to (1). One unit of Alkaline Phosphatase is the enzyme activity which hydrolyzes 1 μmol of 4-nitrophenyl phosphate in 1 min at +37°C under assay conditions.  

**Note:** According to (1), 5 units Alkaline Phosphatase (+37°C; diethanolamine buffer) correspond to 1 unit Alkaline Phosphatase (+25°C; glycine/NaOH buffer).

**Activity determination**

The activity determination is performed according to (1) at +37°C in 1 M diethanolamine buffer, 10 mM 4-nitrophenyl phosphate, 0.5 mM \(\text{MgCl}_2\), pH 9.8.

**Specific activity**

Approx. 2 U/μg according to (1) and (2).

**Stability**

Stable at +2 to +8°C until the expiration date printed on the label.

**Procedures**

**Dephosphorylation of DNA (3, 4)**

The reaction assay is adjusted with 1/10 volume \(10\times\) Dephosphorylation Buffer.  
1 pmol 5´ terminal phosphorylated DNA fragments (3´-recessed, 5´-recessed or blunt-ended) are incubated with 1 unit Alkaline Phosphatase at +37°C for 60 min.

**Dephosphorylation of RNA (3, 4)**

The reaction assay is adjusted with 1/10 volume \(10\times\) Dephosphorylation Buffer.  
1 pmol 5´ terminal phosphorylated RNA fragments are incubated with 1 unit Alkaline Phosphatase at +50°C for 60 min.

**Inactivation of Alkaline Phosphatase (4, 5)**

Add 1 / 10 volume of 200 mM EGTA, to the reaction assay and heat to +65°C for 10 min.  
To achieve complete inactivation of Alkaline Phosphatase, perform an extraction with phenol/chloroform/isoamylalcohol (50:48:2).

**Quality Control**

For lot-specific certificates of analysis, see section,  
Contact and Support.

**References**


**Disclaimer of License**

For patent license limitations for individual products please refer to: List of biochemical reagent products

**Changes to previous version**

Update of the chapter Quality Control.

**Contact and Support**

To ask questions, solve problems, suggest enhancements and report new applications, please visit our Online Technical Support Site.  
To call, write, fax, or email us, visit sigma-aldrich.com, and select your home country. Country-specific contact information will be displayed.