

Phosphatase, alkaline

From calf intestine
Orthophosphoric-monoester phosphohydrolase
(alkaline optimum)

Cat. No. 10 713 023 001 1,000 U (1 U/ μ l)

Cat. No. 11 097 075 001 1,000 U (20 U/ μ l)

 **Version 15**

Content version: February 2020

Store at +2 to +8°C

Product Overview

Content

| | |
|------------------------------|---|
| Alkaline Phosphatase | 1,000 U (1 U/ μ l), (Cat. No. 10 713 023 001) 1,000 U (20 U/ μ l), (Cat. No. 11 097 075 001), in 25 mM Tris-HCl, 1 mM MgCl ₂ , 0.1 mM ZnCl ₂ , 50% glycerol (w/v), pH 7.6 (+4°C). |
| Dephosphorylation Buffer 10x | 0.5 M Tris-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 μ mol 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 MgCl₂, pH 9.8.

Specific activity

Approx. 2 U/ μ g 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

- 1 Moessner, E. *et al.* (1980) *Z. Physiol. Chem.* **361**, 543.
- 2 Bradford, M. (1976) *Anal. Biochem.* **72**, 248.
- 3 Maxam, A. M. & Gilbert, W. (1980) *Methods Enzymol.* **65**, 499.
- 4 Chaconas, G. & v. d. Sande, J. H. (1980) *Methods Enzymol.* **65**, 75.
- 5 Simsek, M. *et al.* (1973) *Proc. Natl. Acad. Sci. USA* **70**, 1041.

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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](#).

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