For general laboratory use.

Alkaline Phosphatase
from calf intestine

Version: 16
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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

Store the product at +2 to +8°C.

1. General Information

1.1. Contents

Vial / bottle	Label	Function / description	Catalog number	Content
1	Phosphatase, alkaline (AP)	Enzyme storage buffer: 25 mM Tris-HCl, 1 mM $MgCl_2$, 0.1 mM $ZnCl_2$, 50% glycerol (v/v), pH 7.6. (+4°C).	10 713 023 001	1 vial, 1,000 U
			11 097 075 001	1 vial, 1,000 U
2	Phosphatase, alkaline (AP), Dephosphorylation Buffer, 10x conc.	0.5 M Tris-HCl, 1 mM EDTA, pH 8.5 (+20°C).	10 713 023 001	1 vial, 1 ml
			11 097 075 001	1 vial, 1 ml

1.2. Storage and Stability

Storage Conditions (Product)

When stored at +2 to +8°C, the product is stable through the expiry date printed on the label.

Vial / bottle	Label	Storage
1	Phosphatase, alkaline (AP)	Store at +2 to +8°C.
2	Phosphatase, alkaline (AP), Dephosphorylation Buffer, 10x conc.	

1.3. Additional Equipment and Reagent required

For inactivation of alkaline phosphatase

- EGTA
- Phenol/cloroform/isoamylalcohol

2. How to Use this Product

2.1. Protocols

Dephosphorylation of DNA

1. Adjust the reaction with 1/10 volume Dephosphorylation Buffer, 10x conc.

2. Incubate 1 pmol 5′ terminal phosphorylated DNA fragments (3′-recessed, 5′-recessed, or blunt-ended) with 1 U Alkaline Phosphatase at +37°C for 60 minutes.

Dephosphorylation of RNA

1. Adjust the reaction with 1/10 volume Dephosphorylation Buffer, 10x conc.

2. Incubate 1 pmol 5′ terminal phosphorylated RNA fragments with 1 U Alkaline Phosphatase at +50°C for 60 minutes.

Inactivation of Alkaline Phosphatase

1. Add 1/10 volume of 200 mM EGTA to the reaction assay and heat to +65°C for 10 minutes.

2. To achieve full inactivation of Alkaline Phosphatase, perform an extraction with phenol/chloroform/isoamylalcohol in a ratio of 50:48:2.

2.2. Parameters

Specific Activity

Approximately 2 U/µg.
The activity determination is performed at +37°C in 1 M diethanolamine buffer, 10 mM 4-nitrophenyl phosphate, 0.5 mM $MgCl_2$, pH 9.8.

Unit Definition

One unit of Alkaline Phosphatase is the enzyme activity which hydrolyzes 1 µmol of 4-nitrophenyl phosphate in 1 minute at +37°C under assay conditions.

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

3. Additional Information on this Product

3.1. Quality Control

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

4. Supplementary Information

4.1. Conventions

To make information consistent and easier to read, the following text conventions and symbols are used in this document to highlight important information:

Text convention and symbols	
Information Note: Additional information about the current topic or procedure.	
Important Note: Information critical to the success of the current procedure or use of the product.	
① ② ③ etc.	Stages in a process that usually occur in the order listed.
❶ ❷ ❸ etc.	Steps in a procedure that must be performed in the order listed.
* (Asterisk)	The Asterisk denotes a product available from Roche Diagnostics.

4.2. Changes to previous version

Layout changes.
Editorial changes.

4.3. Trademarks

All product names and trademarks are the property of their respective owners.

4.4. License Disclaimer

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

4.5. Regulatory Disclaimer

For general laboratory use.

4.6. Safety Data Sheet

Please follow the instructions in the Safety Data Sheet (SDS).

4.7. Contact and Support

To ask questions, solve problems, suggest enhancements or 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.

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