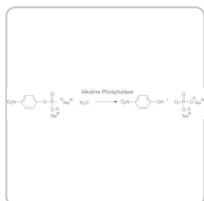


Saisir le nom du produit, le numéro de lot, etc.



Toutes les  
photos (1)

Documents

FDS

COO/COA

 Fiche des  
caractéristiques

Plus de  
documents »

P5521 ► Sigma-Aldrich.

# Phosphatase, Alkaline from bovine intestinal mucosa

★★★★★ (0)

≥2,000 DEA units/mg protein

Synonyme(s):

Alkaline phosphatase, Orthophosphoric-monoester phosphohydrolase (alkaline optimum)

Numéro CAS: 9001-78-9

Numéro de classification  
(Commission des enzymes):

3.1.3.1 (BRENDA, IUBMB)

Numéro MDL: MFCD00131849

NACRES:

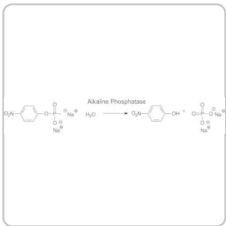
NA.54

| Référence  | Conditionnement | Disponibilité                            |            | Prix       | Quantité                                            |
|------------|-----------------|------------------------------------------|------------|------------|-----------------------------------------------------|
| P5521-1KU  | 1000 UNITS      | ✓ Only 3 left in stock (more on the way) | Détails... | 125,00 €   | <div> <div>–</div> <div>+</div> </div> <div>i</div> |
| P5521-2KU  | 2000 UNITS      | ✓ Only 1 left in stock (more on the way) | Détails... | 188,00 €   | <div> <div>–</div> <div>+</div> </div> <div>i</div> |
| P5521-10KU | 10000 UNITS     | ✓ Only 3 left in stock (more on the way) | Détails... | 684,00 €   | <div> <div>–</div> <div>+</div> </div> <div>i</div> |
| P5521-50KU | 50000 UNITS     | ✓ Only 3 left in stock (more on the way) | Détails... | 1 700,00 € | <div> <div>–</div> <div>+</div> </div> <div>i</div> |

Demander une commande en gros

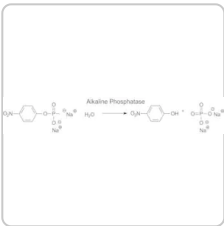
Ajouter au panier

PRODUITS RECOMMANDÉS



Sigma-Aldrich  
**P7640**  
**Phosphatase, Alkaline from bovine intestinal mucosa**  
lyophilized powder, ≥10 DEA units/mg solid

[Consulter le prix et la disponibilité](#)



Sigma-Aldrich  
**P6774**  
**Phosphatase, Alkaline from bovine intestinal mucosa**  
buffered aqueous solution, ≥2,000 DEA units/mg protein

[Consulter le prix et la disponibilité](#)



PROPRIÉTÉS

|                   |                             |
|-------------------|-----------------------------|
| Forme             | aqueous solution            |
| Niveau de qualité | 200                         |
| specific activity | ≥2,000 DEA units/mg protein |
| Poids mol.        | dimer ~160 kDa              |
| Concentration     | ≥1.0 mg/mL                  |
| Temp. de stockage | 2-8°C                       |

Vous recherchez des produits similaires ? Visitez [Guide de comparaison des produits](#)

## Catégories apparentées

### Detection Substrates & Enzymes

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## DESCRIPTION

### Description générale

The enzyme is a glycoprotein containing approximately 12% carbohydrate (6% hexoses and 6% other neutral sugars). Each molecule of alkaline phosphatase contains four zinc atoms and four disulfide bridges. Maximal activity with alkaline phosphatase is achieved in the presence of magnesium. It catalyzes the hydrolysis of phosphate monoesters such as p-nitrophenyl phosphate, phenyl phosphate, phenolphthalein phosphate,  $\alpha$ -glycerol phosphate,  $\beta$ -glycerol phosphate, 2-phosphorylglycerate, triosephosphate, glucose-6-phosphate, glucose 1-phosphate, fructose 1-phosphate, fructose 6-phosphate, adenosine 5-phosphate adenosine 3-phosphate, phosphoenolpyruvate, and  $\beta$ -nicotinamide adenine dinucleotide phosphate. Arsenate, cysteine, iodine, inorganic phosphate, pyrophosphate, diisopropyl phosphate, triphenylphosphate, diisopropyl fluorophosphate, and L-phenylalanine are some of the strong inhibitors of alkaline phosphatase.

### Application

Alkaline phosphatase can be used to dephosphorylate casein and other proteins. Alkaline phosphatase may be also be used to dephosphorylate the 5'-termini of DNA or RNA to prevent self-ligation. DNA or RNA can also be tagged with radiolabeled phosphate (via T4 polynucleotide kinase) after dephosphorylation with alkaline phosphatase..

Alkaline phosphatase is used for conjugation to antibodies and other proteins for ELISA, Western blotting, and histochemical detection. It is routinely used to dephosphorylate proteins, such as casein, and nucleic acids. It may be used for protein labeling when high sensitivity is required. Alkaline phosphatase may be also be used to dephosphorylate the 5'-termini of DNA or RNA to prevent self-ligation. DNA or RNA can also be tagged with radiolabeled phosphate (via T4 polynucleotide kinase) after dephosphorylation with alkaline phosphatase. Product P5521 has been used to study GTP hydrolysis .

High specific activity grade recommended for antibody and protein conjugation.

The enzyme from Sigma has been used in the assay of phosphatidylinositol 4-phosphate and phosphatidylinositol 4,5-bisphosphate. It has also been used for alkaline phosphatase assays using a Nafion<sup>TM</sup>-modified electrode.

## Conditionnement

1000, 2000, 10000, 50000 units in serum bottle

## Actions biochimiques/physiologiques

Alkaline phosphatase, from bovine intestinal mucosa, is most stable in the pH range 7.5-9.5. The enzyme has a broad specificity for phosphate esters of alcohols, amines, pyrophosphate, and phenols and it requires zinc, and magnesium or calcium divalent ions for activity.

The enzyme has a broad specificity for phosphate esters of alcohols, amines, pyrophosphate, and phenols. It is routinely used to dephosphorylate proteins and nucleic acids.

## Propriétés physiques

Bovine intestinal alkaline phosphatase is a dimeric, membrane-derived glycoprotein. At least three isoforms exist, which typically possess two N-linked and one or more O-linked glycans per monomer.

Bovine intestinal alkaline phosphatase is a dimeric, membrane-derived glycoprotein. At least three isoforms exist, which typically possess two N-linked and one or more O-linked glycans per monomer.<sup>2</sup> The enzyme requires zinc, and magnesium or calcium divalent ions for activity.

## Définition de l'unité

One DEA unit will hydrolyze 1  $\mu$ mole of 4-nitrophenyl phosphate per minute at pH 9.8 at 37 °C. (One glycine unit is equivalent to ~3 DEA units)

## Forme physique

solution in 3.2 M ammonium sulfate, 1 mM MgCl<sub>2</sub> and 0.1 mM ZnCl<sub>2</sub>, pH 7.0

## Notes préparatoires

Affinity purified

This product is prepared from bovine intestinal mucosa. Dilutions should be made in 10 mM Tris-HCl, pH 8.0, 1-5 mM magnesium chloride, 0.1-0.2 mM zinc chloride, and 50% glycerol and stored at 2-8 °C.

## Remarque sur l'analyse

Package sizes are based on DEA units

Protein determined by biuret.

## Informations légales

Nafion is a trademark of The Chemours Company FC, LLC

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## PRODUITS APPARENTÉS

### Inhibiteur

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#### D6518

Diethylenetriaminepentaacetic acid, ≥99% (titration)

[View Pricing](#)

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#### P9375

1,10-Phenanthroline monohydrate, reagent grade

[View Pricing](#)

**E4378**

Ethylene glycol-bis(2-aminoethylether)-*N,N,N',N'*-tetraacetic acid, ≥97.0%

[View Pricing](#)**ED2SS**

Ethylenediaminetetraacetic acid disodium salt dihydrate, reagent grade, 98.5-101.5% (titration)

[View Pricing](#)**Substrat****M3168**

4-Methylumbelliferyl phosphate (4-MUP) Liquid Substrate System, liquid

[View Pricing](#)**N2770**

SIGMAFAST™ p-Nitrophenyl phosphate Tablets, tablet, To prepare 20 mL

[View Pricing](#)**N1891**

SIGMAFAST™ p-Nitrophenyl phosphate Tablets, tablet, To prepare 5 mL

[View Pricing](#)

## INFORMATIONS SUR LA SÉCURITÉ

**Code de la classe de stockage**

10 - Combustible liquids

**WGK**

WGK 1

**Flash Point(F)**

Not applicable

**Point d'éclair C**

Not applicable

**Équipement de protection individuelle**

Eyeshields, Gloves, type N95 (US)

## LISTES RÉGLEMENTAIRES

Les listes réglementaires sont principalement fournies pour les produits chimiques. Seules des informations limitées peuvent être fournies ici pour les produits non chimiques. L'absence d'indication signifie qu'aucun des composants n'est répertorié. Il incombe à l'utilisateur de s'assurer de l'utilisation sûre et légale du produit.

**Liste des restrictions (Annexe XXII du Règlement REACH de l'UE)**CAS No. **7783-20-2**

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## DOCUMENTATION

**Certificat d'analyse**

Saisir un numéro de lot pour rechercher un certificat d'analyse (COA).

Numéro de lot

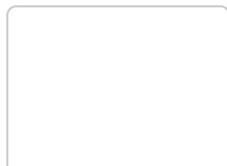
e.g. 023J5431

**Comment saisir un numéro de lot (COA)****Rechercher****Certificat d'origine**

Saisir un numéro de lot pour rechercher un certificat d'origine (COO).

Numéro de lot

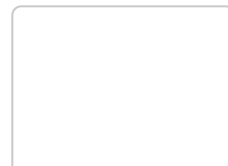
e.g. 023J5431

**Comment saisir un numéro de lot (COO)****Rechercher****Plus De Documents**[Enzyme Explorer](#)[FDS](#)**LES CLIENTS ONT ÉGALEMENT CONSULTÉ**

Sigma-Aldrich

**SRP6549****Alkaline Phosphatase from calf intestine**

≥98% (SDS-PAGE)



Sigma-Aldrich

**79390****Phosphatase, Alkaline from calf intestinal mucosa**



[Consulter le prix et la disponibilité](#)

suitable for enzyme immunoassay, solution (clear, colorless), ~2500 U/mg protein (~10 mg/ml)

[Consulter le prix et la disponibilité](#)

## ARTICLES REVUS PAR DES PAIRS

### Determination of alkaline phosphatase using a Nafion<sup>®</sup>-modified electrode.

**Le Gal La Salle A, et al.**

*Journal of Electroanalytical Chemistry*, 379(1), 281-291 (1994)

### Analysis of the metabolic turnover of the individual phosphate groups of phosphatidylinositol 4-phosphate and phosphatidylinositol 4,5-bisphosphate. Validation of novel analytical techniques by using <sup>32</sup>P-labelled lipids from erythrocytes.

**P T Hawkins et al.**

*The Biochemical journal*, 218(3), 785-793 (1984-03-15)

We have developed methods that yield estimates of the <sup>32</sup>P content of each of the individual phosphate groups of phosphatidylinositol 4-phosphate and phosphatidylinositol 4,5-bisphosphate, thus extending the information available from studies of the labelling of these lipids in intact cells

### Alkaline phosphatase (EC 3.1.3.1).

**M J Maunders**

*Methods in molecular biology (Clifton, N.J.)*, 16, 331-341 (1993-01-01)

### Kinetic isotope effects in Ras-catalyzed GTP hydrolysis: evidence for a loose transition state.

**Xinlin Du et al.**

*Proceedings of the National Academy of Sciences of the United States of America*, 101(24), 8858-8863 (2004-06-05)

A remote labeling method has been developed to determine (18)O kinetic isotope effects (KIEs) in Ras-catalyzed GTP hydrolysis. Substrate mixtures consist of (13)C-depleted GTP and [(18)O,(13)C]GTP that contains (18)O at phosphoryl positions of mechanistic interest and (13)C at all carbon

## Intestinal alkaline phosphatase. Catalytic properties and half of the sites reactivity.

D Chappelet-Tordo et al.

*Biochemistry*, 13(9), 1788-1795 (1974-04-23)

[Afficher tous les articles scientifiques apparentés](#)

## PROTOCOLES ET ARTICLES SCIENTIFIQUES

### Articles

#### [How to Work with Enzymes Supplied as Ammonium Sulfate Suspensions](#)

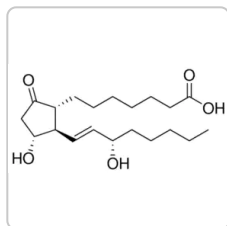
Instructions for working with enzymes supplied as ammonium sulfate suspensions

### Protocoles

#### [Diethanolamine Assay for the Enzymatic Assay of Alkaline Phosphatase \(EC 3.1.3.1\)](#)

Enzymatic Assay of Alkaline Phosphatase, Diethanolamine Assay (EC 3. 1. 3. 1)

## PRODUITS CONSULTÉS RÉCEMMENT

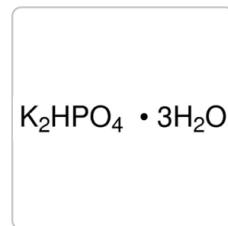


Sigma-Aldrich

**P5515**

**Prostaglandin E1**

≥98% (HPLC), synthetic



Sigma-Aldrich

**P5504**

**Potassium phosphate dibasic trihydrate**

*ReagentPlus*<sup>®</sup>, ≥99.0%

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## Évaluations

[Soyez le premier à donner votre avis sur ce produit](#)

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## Questions

[Soyez le premier à poser une question](#)

## SERVICE TECHNIQUE

Notre équipe de scientifiques dispose d'une expérience dans tous les secteurs de la recherche, notamment en sciences de la vie, science des matériaux, synthèse chimique, chromatographie, analyse et dans de nombreux autres domaines..

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