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API-RO Roche

Alkaline Phosphatase (AP)

grade I, from calf intestine

Synonyme(s):

AP, Alkaline Phosphatase

Numéro de classification
(Commission des enzymes):

3.1.3.1 (BRENDA, IUBMB)

Référence	Conditionnement	Disponibilité	Prix	Quantité
10108138001	1500 UNITS	✓ Only 4 left in stock (more on the way) Détails...	95,40 €	— + i
10108146001	7500 UNITS	✓ Date d'expédition estimée le 03 octobre 2022 Détails...	360,00 €	— + i

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PRODUITS RECOMMANDÉS



Roche



Roche



APMB-RO

Alkaline Phosphatase

solution, from bovine (calf) intestine, 2 units/μg protein, optimum pH 7.5-9.5

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10567752001

Alkaline Phosphatase

EIA grade, from calf intestine

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PROPRIÉTÉS

Source biologique	bovine (calf) intestine
Niveau de qualité	100
Forme	suspension
specific activity	~2000 units/mg protein (At 37 °C with 4-nitrophenyl phosphate as the substrate, and diethanolamine as the buffer (400 U/mg at 25 °C with 4-nitrophenyl phosphate as the substrate, and glycine as the buffer))
Conditionnement	pkg of 1,500 U (10108138001) pkg of 7,500 U (10108146001)
manufacturer/tradename	Roche
pH optimal	8.0-10.5
Absorption	7.6 at 278 nm (10 mg AP/ml)
Expédié(e)s dans	wet ice

Temp. de stockage

2-8°C

Catégories apparentées

[Detection Substrates & Enzymes](#)[Roche® Life Science Products](#)

DESCRIPTION

Description générale

Orthophosphoric-monoester phosphohydrolase (alkaline optimum)

Alkaline phosphatase catalyzes the removal of phosphate group from various compounds that are phosphorylated. It hydrolyzes 5'-monophosphate groups from both DNA and RNA. It can also hydrolyze 5'-diphosphate and 5'-triphosphate groups from RNA.

Spécificité

Heat inactivation: AP activity is destroyed irreversibly by incubating the enzyme at 65 °C.

Denaturation is dependent on protein concentration - using less than 10 U/ml (0.1 mol/l glycine buffer, pH 10.5, 1 mmol/l MgCl₂ and 0.1 mmol/l ZnCl₂), AP is inactivated by a 10 minutes incubation at 65 °C.

Application

Selective cleavage of terminal phosphate groups from oligonucleotides and in protein nucleotide exchange and deliverance. It has also been used to phosphorylate samples to distinguish between phosphate moieties present as phosphorylated glycans and phosphorylated amino acid residues.

Qualité

Contaminants: <0.0004% PDE, <0.004% ADA and A-5-MP deaminase, each

Séquence

AP is a dimer of identical or nearly identical subunits; each of which contains 2 molecules of Zn^{2+} , one tightly bound and necessary for structural stability, the other loosely bound and required for catalytic activity. The active site contains a reactive serine.

In some mammals (e.g., humans), there are at least 3 distinguishable isoenzymes: the intestinal, the placental and the form found in bone/liver/kidney.

Définition de l'unité

Unit Conversion: 1 Roche unit (tested at +25 °C) corresponds to ~2 to 2.5 Sigma units (tested at +37 °C).

AP activity is not expressed in Armstrong units; a conversion factor for international units is not known.

Approx. 3.8 U (grade I AP) or 4.0 U (grade II AP) [+37 °C, 4-NPP as substrate, diethanolamine as buffer, pH 9.8] = 1 U [+25 °C, 4-NPP as substrate, glycine as buffer, pH 10.5].

Biochemica Information. 87 (grade I AP) :

1.0 U [+37 °C, QC assay conditions] = 0.79 U [+30 °C, QC assay conditions] = 0.57 U [+25 °C, QC assay conditions]

Forme physique

Suspension in 3.2 M ammonium sulfate solution, 1 mM MgCl_2 , 0.1 mM ZnCl_2 , pH approximately 7

Notes préparatoires

- **Activator:** Divalent metal ions (Mg^{2+} , Co^{2+} , Mn^{2+})
- Amino alcohols (2-amino-2-methyl-1-propanol, diethanolamine)

Note that high concentrations of amino alcohols can as well act as competitive inhibitors (e.g., monoethanolamine in diethanolamine).

Storage conditions (working solution): The suspension is offered at a c= approx. 5 mg/ml.

If this suspension is diluted only 5 to 10-fold with further 3.2 M ammonium sulfate solution, 1 mM MgCl₂, 0.1 mM ZnCl₂, pH approx. 7, we would expect from general experience that a stability for some weeks might be given provided it is stored at 4 °C (no guarantee!).

Autres remarques

For life science research only. Not for use in diagnostic procedures.

INFORMATIONS SUR LA SÉCURITÉ

Code de la classe de stockage

12 - Non Combustible Liquids

WGK

WGK 1

Flash Point(F)

does not flash

Point d'éclair C

does not flash

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

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Numéro de lot

e.g. 023J5431

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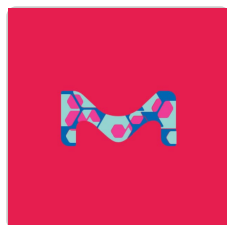
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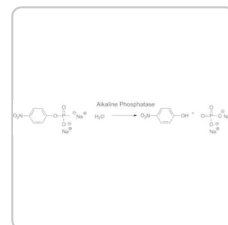


Sigma-Aldrich

P4978

Phosphatase, Alkaline from calf intestine
buffered aqueous glycerol solution

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Sigma-Aldrich

P5521

Phosphatase, Alkaline from bovine intestinal mucosa
≥2,000 DEA units/mg protein

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ARTICLES REVUS PAR DES PAIRS

METHOD SUMMARY

Stephanie Ketcham

Biotechniques, 117-123 (2017)

DNA base mismatch detection with bulky rhodium intercalators: synthesis and applications.

Brian M Zeglis et al.

Nature protocols, 2(2), 357-371 (2007-04-05)

This protocol describes the syntheses and applications of two metallointercalators, Rh(bpy)₂(chrysi)³⁺ and Rh(bpy)₂(phzi)³⁺, that target single base mismatches in DNA. The complexes bind mismatched DNA sites specifically and, upon photoactivation, promote strand scission neighboring the mismatch. Owing to their high

Affinity-chromatography purification of alkaline phosphatase from calf intestine.

O Brenna et al.

The Biochemical journal, 151(2), 291-296 (1975-11-01)

A crude preparation of alkaline phosphatase (EC 3.1.3.1) from calf intestinal mucosa was purified by affinity chromatography on Sepharose-bound derivatives of arsanilic acid, which was found to be a competitive inhibitor of the enzyme. Three biospecific adsorbents were prepared for

GTPase activity of Di-Ras proteins is stimulated by Rap1GAP proteins.

Raphael Gasper et al.

Small GTPases, 1(3), 133-141 (2011-06-21)

The Ras family is the largest and most diverse sub-group of Ras-like G proteins. This complexity is further increased by the high number of regulatory Guanine nucleotide Exchange Factors (GEFs) and GTPase Activating Proteins (GAPs) that target specific members of

PROTOCOLES ET ARTICLES SCIENTIFIQUES

Protocoles

Alkaline Phosphatase (AP) Protocol

Alkaline phosphatase (AP) is a non-specific phosphomonoester hydrolase that catalyzes the hydrolysis of a wide variety of organic monophosphates.

PRODUITS CONSULTÉS RÉCEMMENT



Roche

10108090001

Peroxidase (POD)

grade I, from horseradish

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Roche

10108057001

Pepsin

lyophilized (salt-free), ~2500 units/mg protein (At 37 °C with hemoglobin as the substrate. One unit is the enzy...

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