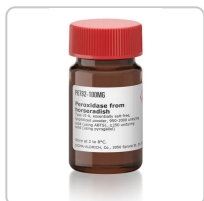


Saisir le nom du produit, le numéro de lot, etc.

[Toutes les photos](#) (4)

Documents

 [FDS](#) [COO/COA](#) [Fiche des caractéristiques](#)[Plus de documents](#) »**P6782** ▶ **Sigma-Aldrich**

Peroxidase from horseradish

★★★★★ (0)

Type VI-A, essentially salt-free, lyophilized powder, 950-2000 units/mg solid (using ABTS), ≥250 units/mg solid (using pyrogallol)

Synonyme(s):

Donor:hydrogen-peroxide oxidoreductase, Horseradish peroxidase

Numéro CAS: **9003-99-0**Numéro de classification (Commission des enzymes): **1.11.1.7 (BRENDA, IUBMB)**Numéro EC: **232-668-6**Numéro MDL: **MFCD00071339**

eCl@ss: 32160410

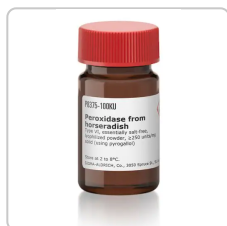
NACRES: NA.54

Référence	Conditionnement	Disponibilité	Prix	Quantité
P6782-5MG	5 MG	✓ Only 4 left in stock (more on the way) Détails...	75,10 €	— + 
P6782-10MG	10 MG	✓ Disponible pour expédition le 07 octobre 2022 Détails...	140,00 €	— + 
P6782-25MG	25 MG	✓ Disponible pour expédition le 07 octobre 2022 Détails...	231,00 €	— + 
P6782-50MG	50 MG	✓ Only 4 left in stock (more on the way) Détails...	399,00 €	— + 

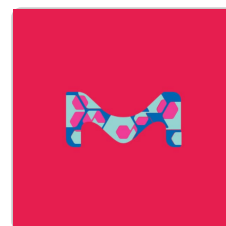
Référence	Conditionnement	Disponibilité	Prix	Quantité
P6782-100MG	100 MG	✓ Only 2 left in stock (more on the way) Détails...	688,00 €	1 - + i

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PRODUITS RECOMMANDÉS



Sigma-Aldrich

P8375**Peroxidase from horseradish**Type VI, essentially salt-free, lyophilized powder, ≥ 250 units/mg solid (using pyrogallol)[Consulter le prix et la disponibilité](#)

Sigma-Aldrich

77332**Peroxidase from horseradish**

lyophilized, powder, ~150 U/mg

[Consulter le prix et la disponibilité](#)

PROPRIÉTÉS

Type	Type VI-A
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Niveau de qualité	300
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Forme	essentially salt-free, lyophilized powder
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specific activity	≥250 units/mg solid (using pyrogallol) 950-2000 units/mg solid (using ABTS)
Poids mol.	~44 kDa
Solubilité	0.1 M phosphate buffer: soluble 10 mg/mL, clear, orange to red (pH 6.0) H ₂ O: soluble
application(s)	diagnostic assay manufacturing
Temp. de stockage	2-8°C

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

Catégories apparentées

Detection Substrates & Enzymes

DESCRIPTION

Description générale

Horseradish peroxidase is isolated from horseradish roots (*Amoracia rusticana*) and belongs to the ferroporphyrin group of peroxidases. HRP is a single chain polypeptide containing four disulfide bridges. It is a glycoprotein containing 18% carbohydrate. The carbohydrate composition consists of galactose, arabinose, xylose, fucose, mannose, mannosamine, and galactosamine depending upon the specific isozyme. Its molecular weight (~44 kDa) includes the polypeptide chain (33,890 Daltons), hemin plus Ca²⁺ (~700 Daltons), and carbohydrate (~9,400 Daltons). At least seven isozymes of HRP exist. The isoelectric point for horseradish peroxidase isozymes ranges from 3.0 - 9.0.

Application

Horseradish peroxidase (HRP) is isolated from horseradish roots (*Amoracia rusticana*). It is used in biochemistry applications such as western blots, ELISA and Immunohistochemistry. Horseradish peroxidase is used to amplify a weak signal and increase detectability of a target molecule, such as a protein. Product P6782 is type VI-A and it is essentially a salt-free, lyophilized powder. It is used to quantify cholesterol and cholesterol esters and to study *in vitro* lipid deposition on hydrogel and silicone hydrogel contact lenses.

The enzyme from Sigma has been used in the development of rapid and sensitive galactose oxidase-peroxidase biosensor for galactose detection with prolonged stability. It has been used as a component of a media (MRS agar) plate containing 3,3',5,5'-tetramethylbenzidine (TMB) for the growth of *Lactobacillus* sp. TMB acts as a chromogenic substrate of peroxidase. Peroxidase generates O_2 from H_2O_2 produced by the *lactobacilli*, and the TMB stains the colonies blue in the presence of O_2 . Thus, after 48 hours of incubation under 5% CO_2 in air, the colonies that produce H_2O_2 on MRS agar appear dark blue. H_2O_2 nonproducers are colorless. It has been used to study the stabilization effect of polyvinyl alcohol on horseradish peroxidase. It is also used for the determination of glucose and peroxides in solution.

Conditionnement

5 mg in glass bottle

10, 25 mg in poly bottle

50, 100 mg in glass bottle

Packaged in mg solid

Actions biochimiques/physiologiques

HRP readily combines with hydrogen peroxide (H_2O_2) and the resultant [HRP- H_2O_2] complex can oxidize a wide variety of hydrogen donors. The optimal pH is 6.0-6.5 and the enzyme is most stable in the pH range of 5.0-9.0. HRP can be conjugated to antibodies by several different methods that include the use of glutaraldehyde, periodate oxidation, disulfide bonds, and also via amino and thiol directed cross-linkers. It is smaller and more stable than the enzyme labels, β -galactosidase and alkaline phosphatase. Hence, it is the most desired label. Also, its glycosylation leads to lower non-specific binding. Sodium azide, cyanide,

L-cystine, dichromate, ethylenethiourea, hydroxylamine, sulfide, vanadate, p-aminobenzoic acid, as well as Cd^{2+} , Co^{2+} , Cu^{2+} , Fe^{3+} , Mn^{2+} , Ni^{2+} , and Pb^{2+} ions are found to inhibit the enzyme activity.

When incubated with a substrate, horseradish peroxidase produces a coloured, fluorimetric, or luminescent derivative of the labeled molecule, allowing quantification. Horseradish peroxidase has been shown to slightly reduce the level of inhibition in a cydAB mutant.

Liaison

Similar to P8375

Définition de l'unité

One ABTS unit will oxidize 1 μmole of ABTS per minute at 25 °C at pH 5.0

One pyrogallol unit will form 1.0 mg purpurogallin from pyrogallol in 20 sec at pH 6.0 at 20 °C.

Notes préparatoires

Solutions of this product at 1 mg/mL in 0.1 M phosphate buffer (pH 6.0) remain active for at least two weeks at room temperature. The solution retains activity after 5 freeze-thaw cycles.

Remarque sur l'analyse

The RZ (Reinheitszahl) is the absorbance ratio A_{403}/A_{275} determined at 0.5-1.0 mg/ml in deionized water. It is a measure of hemin content, not enzymatic activity. Even preparations with high RZ may have low enzymatic activity.

This product is assayed using ABTS for easy comparison to other suppliers' unit: approx. 1,000 units per mg solid

Autres remarques

View more information on peroxidase at www.sigma-aldrich.com/enzymeexplorer.

PRODUITS APPARENTÉS

Inhibiteur

S2002

Sodium azide, *ReagentPlus*[®], ≥99.5%

[View Pricing](#)

Substrat

D9143

o-Dianisidine, peroxidase substrate

[View Pricing](#)

A0156

N-(4-Aminobutyl)-N-ethylisoluminol, ≥90%

[View Pricing](#)

A4685

Luminol sodium salt

[View Pricing](#)

A1888

2,2'-Azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) diammonium salt, ≥98% (HPLC)

[View Pricing](#)

G5502

Guaiacol, oxidation indicator

[View Pricing](#)

A1661

N-(6-Aminohexyl)-N-ethylisoluminol

[View Pricing](#)

A3537

5-Aminosalicylic acid, ≥99%

[View Pricing](#)

A4382

4-Aminoantipyrine, reagent grade

[View Pricing](#)

A8264

4-Aminophthalhydrazide

[View Pricing](#)

A5754

3-Amino-9-ethylcarbazole, ≥95% (HPLC), powder

[View Pricing](#)**A8511**

Luminol, ≥97% (HPLC)

[View Pricing](#)

INFORMATIONS SUR LA SÉCURITÉ

Pictograms**GHS08****Mention d'avertissement**

Danger

Mentions de danger**H317 - H334****Conseils de prudence****P261 - P272 - P280 - P284 -
P302 + P352 - P333 + P313****Classification des risques**

Resp. Sens. 1 - Skin Sens. 1

**Code de la classe de
stockage**

11 - Combustible Solids

WGK

WGK 3

**Équipement de protection
individuelle**Eyeshields, Gloves, type N95
(US)

DOCUMENTATION

Certificat d'analyse

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

Numéro de lot

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

Comment saisir un numéro de lot (COO)

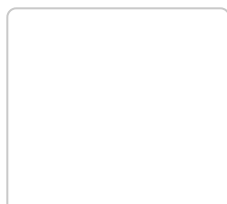
Rechercher

Plus De Documents

[Enzyme Explorer](#)

[FDS](#)

LES CLIENTS ONT ÉGALEMENT CONSULTÉ

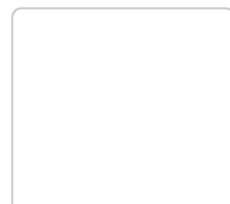


Sigma-Aldrich

1.16216

Peroxidase

(from horse radish) 10000 U/vial for biochemistry EC
1.11.1.7

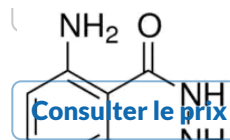


Sigma-Aldrich

A8511

Luminol

≥97% (HPLC)

[Consulter le prix et la disponibilité](#)[Consulter le prix et la disponibilité](#)

ARTICLES REVUS PAR DES PAIRS

[A Tail-Based Mechanism Drives Nucleosome Demethylation by the LSD2/NPAC Multimeric Complex.](#)

Chiara Marabelli et al.

Cell reports, 27(2), 387-399 (2019-04-11)

LSD1 and LSD2 are homologous histone demethylases with opposite biological outcomes related to chromatin silencing and transcription elongation, respectively. Unlike LSD1, LSD2 nucleosome-demethylase activity relies on a specific linker peptide from the multidomain protein NPAC. We used single-particle cryoelectron microscopy (cryo-EM)

Rapid and sensitive galactose oxidase-peroxidase biosensor for galactose detection with prolonged stability

Tkac J, et al.

Biotechnol. Tech., 13(12), 931-936 (1999)

Stabilization effect of polyvinyl alcohol on horseradish peroxidase, glucose oxidase, β -galactosidase and alkaline phosphatase.

Boyd S, et al.

Biotechnol. Tech., 10(9), 693-698 (1996)

Zollner, H.

Handbook of Enzyme Inhibitors, 1993, 367-368 null

From Concept to Product Development

Enzyme Immunoassay, 169-171 (1996)

[Afficher tous les articles scientifiques apparentés](#)

PROTOCOLES ET ARTICLES SCIENTIFIQUES

Protocoles

Spectrophotometric Determination of Reinheitszahl (RZ) for Peroxidase (EC 1.11.1.7)

Reinheitszahl (RZ) is the ratio of absorbance due to hemin (A403, Soret region) to absorbance due to protein (A275).

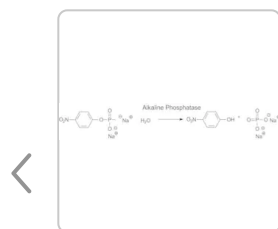
Enzymatic Assay of Peroxidase (EC 1.11.1.7) 2,2'-Azino-bis(3-Ethylbenzthiazoline-6-Sulfonic Acid) as a Substrate

To standardize a procedure for the assay of Peroxidase using 2,2'-Azino-bis(3-Ethylbenzthiazoline-6-Sulfonic Acid) as a substrate.

Enzymatic Assay of Peroxidase (EC 1.11.1.7)

This procedure is for the determination of Peroxidase enzymatic activity using Pyrogallol as the substrate.

PRODUITS CONSULTÉS RÉCEMMENT



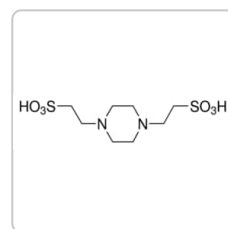
Sigma-Aldrich

P6774

Phosphatase, Alkaline from bovine intestinal mucosa

buffered aqueous solution, ≥2,000 DEA units/mg protein

[Consulter le prix et la disponibilité](#)



Sigma-Aldrich

P6757

PIPES

≥99% (titration)

[Consulter le prix et la disponibilité](#)

Évaluations



Soyez le premier à donner votre avis sur ce produit

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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