

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

[Toutes les photos \(6\)](#)

Documents

[FDS](#)[COO/COA](#)[Fiche des caractéristiques](#)[Plus de documents »](#)**P8250** ▶ **Sigma-Aldrich**

Peroxidase from horseradish

★★★★★ (0)

Type II, essentially salt-free, lyophilized powder, 150-250 units/mg solid (using pyrogallol)

Synonyme(s):

Donor:hydrogen-peroxide oxidoreductase, Horseradish peroxidase

Numéro CAS: **9003-99-0**Numéro EC: **232-668-6**

eCl@ss: 32160410

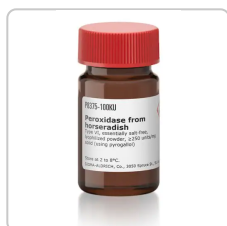
Numéro de classification (Commission des enzymes): **1.11.1.7 (BRENDA, IUBMB)**Numéro MDL: **MFCD00071339**

NACRES: NA.54

Référence	Conditionnement	Disponibilité		Prix	Quantité	
P8250-5KU	5000 UNITS	✓ Disponible pour expédition le 07 octobre 2022	Détails...	51,00 €	- +	i
P8250-25KU	25000 UNITS	✓ Disponible pour expédition le 07 octobre 2022	Détails...	199,00 €	- +	i
P8250-50KU	50000 UNITS	✓ Only 3 left in stock (more on the way)	Détails...	360,00 €	- +	i
P8250-100KU	100000 UNITS	✓ Only 1 left in stock (more on the way)	Détails...	643,00 €	- +	i
P8250-200KU	200000 UNITS	✓ Date d'expédition estimée le 24 novembre 2022		1 100,00 €	- +	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

P8125**Peroxidase from horseradish**Type I, essentially salt-free, lyophilized powder,
≥50 units/mg solid (using pyrogallol)[Consulter le prix et la disponibilité](#)

PROPRIÉTÉS

Source biologique	horseradish
Niveau de qualité	300
Type	Type II
Forme	essentially salt-free, lyophilized powder
specific activity	150-250 units/mg solid (using pyrogallol)

Poids mol.	~44 kDa
Solubilité	0.1 M phosphate buffer: soluble (pH 6.0) H ₂ O: soluble
Rapport des absorbances	RZ ≥1.8
application(s)	diagnostic assay manufacturing
Temp. de stockage	2-8°C

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Catégories apparentées

Detection Substrates & Enzymes

DESCRIPTION

Description générale

Horseradish peroxidase is isolated from horseradish roots (*Amoracia rusticana*) and belongs to the ferroprotoporphyrin 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. Horseradish peroxidase, product P8250, has been used to study nonoral antigens in inflamed gingiva and Ebola virus glycoprotein toxicity.

The enzyme has been used as a comparison during the peroxidase assay of extract from mature tall fescue leaf blades. It has also been used to measure H_2O_2 production.

Conditionnement

5000, 25000, 50000, 100000, 200000 units in glass bottle

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 including glutaraldehyde, periodate oxidation, through 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. It is also used for the determination of glucose and peroxides in solution. Sodium azide, cyanide, L-cystine, dichromate, ethylenethiourea, hydroxylamine, sulfide, vanadate, p-aminobenzoic acid, and Cd^{2+} , Co^{2+} , Cu^{2+} , Fe^{3+} , Mn^{2+} , Ni^{2+} , 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.

Qualité

Preliminary work shows it to contain at least five isoenzymes.

Définition de l'unité

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

Remarque sur l'analyse

The RZ (Reinheitsszahl) 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.

Autres remarques

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

PRODUITS APPARENTÉS

Inhibiteur

S2002

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

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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**

13 - Non 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

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)

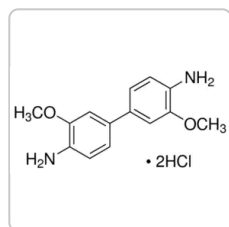
Rechercher

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[FDS](#)

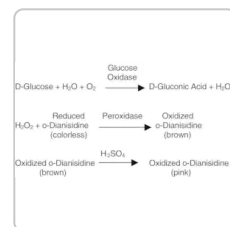
LES CLIENTS ONT ÉGALEMENT CONSULTÉ



Sigma-Aldrich

F5803**o-Dianisidine dihydrochloride**

Suitable for use in glucose determination

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Sigma-Aldrich

G7141**Glucose Oxidase from *Aspergillus niger***

Type X-S, lyophilized powder, 100,000-250,000 units/g solid (without added oxygen)

[Consulter le prix et la disponibilité](#)

ARTICLES REVUS PAR DES PAIRS

Role of the adherence-promoting receptors, CR3, LFA-1, and p150,95, in binding of *Histoplasma capsulatum* by human macrophages.

W E Bullock et al.*The Journal of experimental medicine*, 165(1), 195-210 (1987-01-01)

The principal host cell of *H. capsulatum* (Hc) is the M phi within which the pathogenic yeast phase of the fungus multiplies during active disease. The initial interaction between Hc yeasts and M phi therefore is a crucial step in

Antibody synthesis specific for nonoral antigens in inflamed gingiva.

S M Mallison et al.*Infection and immunity*, 56(4), 823-830 (1988-04-01)

In vitro experimentation indicates that periodontitis-associated bacteria contain potent polyclonal B-cell activators (PBA). We reasoned that if PBA were operative in vivo, plasma cells specific for nonoral antigens should be present in the inflamed gingival tissues, which are characterized by

Oxygen-dependent phenotypic variation in group A streptococcus.

Chuan Chiang-Ni et al.

Journal of microbiology, immunology, and infection = Wei mian yu gan ran za zhi, 49(6), 837-842 (2015-02-05)

The phenotypic heterogeneity of the human pathogen *Streptococcus pyogenes* [group A streptococcus (GAS)] is associated with bacterial virulence variation. During invasive GAS infection, mutations in the two-component regulatory system *covR/covS* leads to increases in hyaluronic acid capsule production, virulence genes

Peroxidase activity in the leaf elongation zone of tall fescue : I. Spatial distribution of ionically bound peroxidase activity in genotypes differing in length of the elongation zone.

J W Macadam et al.

Plant physiology, 99(3), 872-878 (1992-07-01)

Cessation of cell expansion has been associated with cell wall cross-linking reactions catalyzed by peroxidase. This study utilized two genotypes of tall fescue (*Festuca arundinacea* Schreb.) that differ in length of the leaf elongation zone to investigate the relationship between

Ebola virus glycoprotein toxicity is mediated by a dynamin-dependent protein-trafficking pathway.

Nancy J Sullivan et al.

Journal of virology, 79(1), 547-553 (2004-12-15)

Ebola virus infection causes a highly lethal hemorrhagic fever syndrome associated with profound immunosuppression through its ability to induce widespread inflammation and cellular damage. Though GP, the viral envelope glycoprotein, mediates many of these effects, the molecular events that underlie

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PROTOCOLES ET ARTICLES SCIENTIFIQUES

Protocoles

Enzymatic Assay of Diamine Oxidase (E.C. No. 1.4.3.22)

To standardize a procedure for the enzymatic assay of Diamine Oxidase.

Enzymatic Assay of Alcohol Oxidase (EC 1.1.3.13)

This procedure may be used for all Alcohol Oxidase products. The continuous spectrophotometric rate determination (A405, Light path = 1 cm) is based on the following reactions.

Enzymatic Assay of Cholesterol Oxidase

This procedure applies to products that have a specification for the enzymatic activity of cholesterol oxidase. This assay is NOT to be used to assay Cholesterol Oxidase from Schizophyllum commune (Discontinued Product Number C7274) and from Brevibacterium sp. (Discontinued Product...

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).

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PRODUITS CONSULTÉS RÉCEMMENT



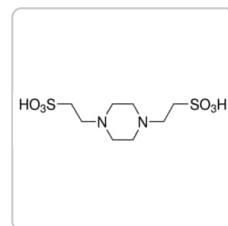
Sigma-Aldrich

P8215

Protease Inhibitor Cocktail

for use with fungal and yeast extracts, DMSO solution

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Sigma-Aldrich

P8203

PIPES

BioXtra, ≥99% (titration)

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