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R8000 ▶ **Sigma-Aldrich.**

D-Ribulose 1,5-Diphosphate Carboxylase from spinach

★★★★★ (0)

partially purified powder, 0.01-0.1 unit/mg solid

Synonyme(s):

3-Phospho-D-glycerate carboxy-lyase(dimerizing), Rubisco

Numéro CAS: **9027-23-0**

Numéro de classification
(Commission des enzymes):

4.1.1.39 (BRENDA, IUBMB)

Numéro MDL: **MFCD00130908**

NACRES:

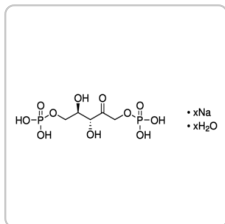
NA.54

Référence	Conditionnement	Disponibilité	Prix	Quantité
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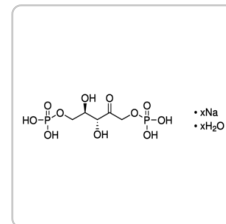
PRODUITS RECOMMANDÉS



Sigma-Aldrich

83895**D-Ribulose 1,5-bisphosphate sodium salt hydrate**

≥99.0% (TLC)

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Sigma-Aldrich

R0878**D-Ribulose 1,5-bisphosphate sodium salt hydrate**

≥90%

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PROPRIÉTÉS

Source biologique	spinach
Niveau de qualité	200
Forme	partially purified powder
specific activity	0.01-0.1 unit/mg solid
Poids mol.	557 kDa
Temp. de stockage	-20°C

DESCRIPTION

Description générale

D-Ribulose 1,5-Diphosphate Carboxylase (RUBISCO) amounts to 50% of the total spinach leaves associated soluble protein.

Exists as a 557 kDa hexadecamer composed of eight heavy chains each with a molecular weight of approximately 56 kDa and eight light chains of molecular weight 14 kDa. Each molecule contains one magnesium ion.

pH optimum: ~7.9.

K_M for CO_2 : ~0.45 mM.

Ribulose diphosphate becomes inhibitory at concentrations exceeding 0.7 mM. Orthophosphate and ammonium sulfate are competitive inhibitors. 3-Phosphoglycerate is a noncompetitive inhibitor.

Application

D-Ribulose 1,5-Diphosphate Carboxylase from spinach has been used:

- as a test protein in pepsin digestion studies
- as an innocuous or non-hazardous protein sample to test its effect on human intestinal epithelial cell lines
- in isothermal titration calorimetry (ITC), and radiolabeled binding assays with abscisic acid

Conditionnement

1 unit in poly bottle

5 units in poly bottle

Actions biochimiques/physiologiques

D-Ribulose 1,5-Diphosphate Carboxylase (RUBISCO) depends on Rubisco activase and chaperones for activation. It participates in plant photorespiration events by catalyzing the carboxylation and oxygenation of ribulose-1,5-bisphosphate. Absciscic acid inhibits the carboxylation activity of Rubisco.

Définition de l'unité

One unit will convert 1.0 μmole of D-RuDP and CO_2 to 2.0 μmoles of D-3-phosphoglycerate per min at pH 7.8 at 25°C.

INFORMATIONS SUR LA SÉCURITÉ

Code de la classe de stockage

13 - Non Combustible Solids

WGK

WGK 3

Flash Point(F)

Not applicable

Point d'éclair C

Not applicable

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

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ARTICLES REVUS PAR DES PAIRS

[Benefit of pulsation in soft corals.](#)

Maya Kremien et al.

Proceedings of the National Academy of Sciences of the United States of America, 110(22), 8978-8983 (2013-04-24)

Soft corals of the family Xenidiidae exhibit a unique, rhythmic pulsation of their tentacles (Movie S1), first noted by Lamarck nearly 200 y ago. However, the adaptive benefit of this perpetual, energetically costly motion is poorly understood. Using in situ

[Roles of autophagy in chloroplast recycling.](#)

Hiroyuki Ishida et al.

Biochimica et biophysica acta, 1837(4), 512-521 (2013-11-26)

Chloroplasts are the primary energy suppliers for plants, and much of the total leaf nitrogen is distributed to these organelles. During growth and reproduction, chloroplasts in turn represent a major source of nitrogen to be recovered from senescing leaves and

Rubisco activase mRNA expression in spinach: modulation by nanoanatase treatment.

Ma Linglan et al.

Biological trace element research, 122(2), 168-178 (2008-01-15)

Characterized by a photocatalysis property, nanoanatase is closely related to the photosynthesis of spinach. It could not only improve light absorbance, transformation from light energy to electron energy, and active chemical energy, but also promote carbon dioxide (CO(2)) assimilation of

Chloroplast genome analysis of Australian eucalypts--Eucalyptus, Corymbia, Angophora, Allosyncarpia and Stockwellia (Myrtaceae).

Michael J Bayly et al.

Molecular phylogenetics and evolution, 69(3), 704-716 (2013-07-24)

We present a phylogenetic analysis and comparison of structural features of chloroplast genomes for 39 species of the eucalypt group (genera Eucalyptus, Corymbia, Angophora, and outgroups Allosyncarpia and Stockwellia). We use 41 complete chloroplast genome sequences, adding 39 finished-quality chloroplast

Translational downregulation of RBCL is operative in the coordinated expression of Rubisco genes in senescent leaves in rice.

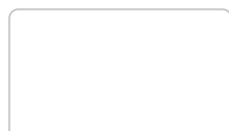
Yuji Suzuki et al.

Journal of experimental botany, 64(4), 1145-1152 (2013-01-26)

Rubisco gene expression was examined in detail in rice (*Oryza sativa* L.) leaves at different positions, i.e. expanding, mature, and senescent leaves. Rubisco small subunit (RBCS) synthesis and RBCS mRNA levels were maximal in expanding leaves and gradually became lower

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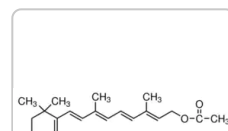
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Sigma-Aldrich

R7876

Ribonucleic acid, transfer from wheat germ



Sigma-Aldrich

R7882

Retinyl acetate



Type V, 15-19 unit/mg solid



solid or viscous liquid, BioReagent, synthetic, suitable for cell culture

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