Creative Enzymes®

Native Spinach D-Ribulose 1,5-Diphosphate Carboxylase

Cat. No. NATE-0661

Lot. No. (See product label)

Introduction

Description	Ribulose-1,5-bisphosphate carboxylase/oxygenase, commonly known by the abbreviation RuBisCO, is an enzyme involved in the first major step of carbon fixation, a process by which atmospheric carbon dioxide is converted by plants to energy-rich molecules such as glucose. In chemical terms, it catalyzes the carboxylation of ribulose-1,5-bisphosphate (also known as RuBP). It is probably the most abundant protein on Earth.
Applications	D-Ribulose 1,5-diphosphate carboxylase from spinach has been used in a study to assess catalytic by-product formation and ligand binding by ribulose bisphosphate carboxylases from different phylogenies. D-Ribulose 1,5-diphosphate carboxylase from spinach has also been used in a study to determine RuBisCO activation kinetics and other rate and equilibrium constants by simultaneous multiple non-linear regression of a kinetic model.
Synonyms	EC 4.1.1.39, D-ribulose 1,5-diphosphate carboxylase; D-ribulose-1,5-bisphosphate carboxylase; RuBP carboxylase; carboxydismutase; diphosphoribulose carboxylase; ribulose 1,5-bisphosphate carboxylase; ribulose 1,5-bisphosphate carboxylase/oxygenase; ribulose 1,5-diphosphate carboxylase; ribulose 1,5-diphosphate carboxylase/oxygenase; ribulose bisphosphate carboxylase/oxygenase; ribulose diphosphate carboxylase; ribulose diphosphate carboxylase/oxygenase; rubisco; 3-phospho-D-glyceRate carboxy-lyase (dimerizing; D-ribulose 1,5-bisphosphate-forming); 3-phospho-D-glyceRate carboxy-lyase (dimerizing); 9027-23-0

Product Information

Source	Spinach
Form	partially purified powder.
EC Number	EC 4.1.1.39
CAS No.	9027-23-0
Activity	0.01-0.1 unit/mg solid
Optimum pH	~7.9
Unit Definition	One unit will convert 1.0 µmole of D-RuDP and CO2 to 2.0 µmoles of D-3-phosphoglycerate per min at pH 7.8 at 25°C.

Storage and Shipping Information

Storage	−20°C