Creative Enzymes®

Native Pseudomonas sp. p-Hydroxybenzoate Hydroxylase

Cat. No. NATE-0564

Lot. No. (See product label)

Introduction

Description	In enzymology, a 4-hydroxybenzoate 3-monooxygenase (EC 1.14.13.2) is an enzyme that catalyzes the chemical reaction:4-hydroxybenzoate + NADPH + H+ + O2↔ protocatechuate + NADP+ + H2O. The 4 substrates of this enzyme are 4-hydroxybenzoate, NADPH, H+, and O2, whereas its 3 products are protocatechuate, NADP+, and H2O. This enzyme belongs to the family of oxidoreductases, specifically those acting on paired donors, with O2 as oxidant and incorporation or reduction of oxygen. The oxygen incorporated need not be derived from O2 with NADH or NADPH as one donor, and incorporation of one atom o oxygen into the other donor.
Applications	This enzyme is useful for enzymatic determination of choline esterase when coupled with prot ocatechuate 3, 4-dioxygenase.
Synonyms	p-hydroxybenzoate hydrolyase; p-hydroxybenzoate hydroxylase; 4-hydroxybenzoate 3-hydroxylase; 4-hydroxybenzoate monooxygenase; 4-hydroxybenzoic hydroxylase; p-hydroxybenzoate-3-hydroxylase; p-hydroxybenzoic acid hydrolase; p-hydroxybenzoic acid hydroxylase; p-hydroxybenzoic hydroxylase; EC 1.14.13.2; 9059-23-8

Product Information

Source	Pseudomonas sp.
Form	lyophilized powder; Contains mannitol and stabilizers
EC Number	EC 1.14.13.2
CAS No.	9059-23-8
Molecular Weight	mol wt 55-~60 kDa
Activity	~20 units/mg solid
pH Stability	pH 5.0-7.5 (25°C, 72hr)
Optimum pH	7.7-7.9
Thermal stability	below 40°C (pH 6.0, 15min)
Optimum temperature	35°C
Michaelis Constant	2.0 x 10-5M (p-Hydroxybenzoate), 4.0 x 10-5M (NADPH)
Structure	One mol of FAD per mol of enzyme
Inhibitors	Ag+, Hg++, PCMB, SDS
Unit Definition	One unit will hydroxylate 1.0 µmole of p-hydroxybenzoate to protecatechuate per min at pH 8.2 at 37°C in the presence of NADPH.

Storage and Shipping Information

Storage	−20°C