Creative Enzymes®

Protocatechuate 3,4-Dioxygenase from Bacteria, Recombinant

Cat. No. NATE-1028

Lot. No. (See product label)

Introduction

Description	In enzymology, a protocatechuate 3,4-dioxygenase (EC 1.13.11.3) is an enzyme that catalyzes the chemical reaction:3,4-dihydroxybenzoate + O2↔ 3-carboxy-cis,cis-muconate. Thus, the two substrates of this enzyme are 3,4-dihydroxybenzoate (protocatechuic acid) and O2, whereas its product is 3-carboxy-cis,cis-muconate. This enzyme belongs to the family of oxidoreductases, specifically those acting on single donors with O2 as oxidant and incorporation of two atoms of oxygen into the substrate (oxygenases). This enzyme participates in benzoate degradation via hydroxylation and 2,4-dichlorobenzoate degradation. It employs one cofactor, iron.
Applications	Useful for removal of protocatechuate derived from choline esterase determination.
Synonyms	protocatechuate 3,4-dioxygenase; protocatechuate oxygenase; protocatechuic acid oxidase; protocatechuic 3,4-dioxygenase; protocatechuic 3,4-oxygenase; 9029-47-4; EC 1.13.11.3; PCD

Product Information

Species	Bacteria
Source	E. coli
Form	Solution
EC Number	EC 1.13.11.3
CAS No.	9029-47-4
Molecular Weight	28 kD α subuit, 24 kD β subunit（SDS-PAGE）
Activity	> 3 Units / mg
Contaminants	NADPH oxidase < 0.01 % Alkaline phosphatase < 0.002 %
pH Stability	5 to 10
Optimum pH	9
Thermal stability	< 60°C
Optimum temperature	65°C

Storage and Shipping Information

Storage	1 - 10°C (do not freeze)