

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 subunit, 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)