

## 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 + O<sub>2</sub> ⇌ 3-carboxy-cis,cis-muconate. Thus, the two substrates of this enzyme are 3,4-dihydroxybenzoate (protocatechuic acid) and O<sub>2</sub>, whereas its product is 3-carboxy-cis,cis-muconate. This enzyme belongs to the family of oxidoreductases, specifically those acting on single donors with O<sub>2</sub> 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

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

### Storage and Shipping Information

**Storage** 1 - 10°C (do not freeze)