

## 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<sup>+</sup> + O<sub>2</sub> ⇌ protocatechuate + NADP<sup>+</sup> + H<sub>2</sub>O. The 4 substrates of this enzyme are 4-hydroxybenzoate, NADPH, H<sup>+</sup>, and O<sub>2</sub>, whereas its 3 products are protocatechuate, NADP<sup>+</sup>, and H<sub>2</sub>O. This enzyme belongs to the family of oxidoreductases, specifically those acting on paired donors, with O<sub>2</sub> as oxidant and incorporation or reduction of oxygen. The oxygen incorporated need not be derived from O<sub>2</sub> with NADH or NADPH as one donor, and incorporation of one atom of oxygen into the other donor.

**Applications** This enzyme is useful for enzymatic determination of choline esterase when coupled with protocatechuate 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

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

***Storage and Shipping Information***

**Storage**      -20°C