

## Native Microorganism Pyruvate oxidase

Cat. No. DIA-215

Lot. No. (See product label)

### Introduction

**Description** In enzymology, a pyruvate oxidase (EC 1.2.3.3) is an enzyme that catalyzes the chemical reaction: pyruvate + phosphate + O<sub>2</sub> ⇌ acetyl phosphate + CO<sub>2</sub> + H<sub>2</sub>O<sub>2</sub>. The 3 substrates of this enzyme are pyruvate, phosphate, and O<sub>2</sub>, whereas its 3 products are acetyl phosphate, CO<sub>2</sub>, and H<sub>2</sub>O<sub>2</sub>. This enzyme belongs to the family of oxidoreductases, specifically those acting on the aldehyde or oxo group of donor with oxygen as acceptor. This enzyme participates in pyruvate metabolism. It has 2 cofactors: FAD, and Thiamin diphosphate.

**Applications** This enzyme is useful for enzymatic determination of pyruvate, GOT, GPT in clinical analysis.

**Synonyms** EC 1.2.3.3; pyruvate: oxygen 2-oxidoreductase (phosphorylating); pyruvic oxidase; phosphate-dependent pyruvate oxidase

### Product Information

<b>Source</b>	Microorganism
<b>Appearance</b>	Yellowish amorphous powder, lyophilized
<b>EC Number</b>	EC 1.2.3.3
<b>CAS No.</b>	9001-96-1
<b>Molecular Weight</b>	approx. 260 kDa
<b>Activity</b>	Grade III 1.5U/mg-solid or more
<b>Contaminants</b>	ATPase < 5.0×10 <sup>-2</sup> % GOT, GPT < 5.0×10 <sup>-2</sup> %
<b>Isoelectric point</b>	4.3
<b>pH Stability</b>	pH 5.7-6.5 (25°C, 20hr)
<b>Optimum pH</b>	5.7
<b>Thermal stability</b>	below 45°C (pH 6.0, 15min)
<b>Optimum temperature</b>	65°C
<b>Michaelis Constant</b>	3.4×10 <sup>-4</sup> M (Pyruvate)
<b>Inhibitors</b>	Fe <sup>++</sup> , Zn <sup>++</sup> , Cu <sup>++</sup> , Ag <sup>+</sup> , Hg <sup>++</sup>
<b>Stabilizers</b>	Sugars, FAD

### Storage and Shipping Information

**Stability** Stable at -20°C for at least one year

