

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 + O₂ ↔ acetyl phosphate + CO₂ + H₂O₂. The 3 substrates of this enzyme are pyruvate, phosphate, and O₂, whereas its 3 products are acetyl phosphate, CO₂, and H₂O₂. 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

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

Storage and Shipping Information

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