Creative Enzymes®

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	GradeⅢ 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