

Native Microorganisms Pyruvate Oxidase

Cat. No. NATE-0613

Lot. No. (See product label)

Introduction

Description

Pyruvate Oxidase consists of four subunits with identical molecular weights. PoxB reacts with certain aldehydes and phosphate can be replaced by arsenate. Oxygen as well as several artificial compounds can function as electron acceptors. Pyruvate Oxidase is activated by phospholipids as well as monomeric and micellar amphiphiles.

Applications

Pyruvate Oxidase (PoxB) converts pyruvate directly to acetate and CO₂. It is used to study pyruvate metabolism. It is used to study aerobic metabolism of bacterium, such as *Lactobacillus plantarum* and *Streptococcus pneumoniae*. Pyruvate Oxidase is used for enzymatic determination of pyruvate, GOT, and GPT in clinical analysis.

Synonyms

pyruvate oxidase; EC 1.2.3.3; pyruvic oxidase; phosphate-dependent pyruvate oxidase; 9001-96-1; Pyruvate:oxygen oxidoreductase (phosphorylating); PoxB

Product Information

Source

Microorganisms

Form

Lyophilized powder containing FAD and sugar as stabilizer

EC Number

EC 1.2.3.3

CAS No.

9001-96-1

Molecular Weight

mol wt ~260 kDa

Activity

> 1.5 units/mg; > 35 units/mg protein (biuret)

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 X 10⁻⁴M (Pyruvate)

Inhibitors

Fe⁺⁺, Zn⁺⁺, Cu⁺⁺, Ag⁺, Hg⁺⁺

Unit Definition

One unit will produce 1.0 μmole of H₂O₂ per min during the conversion of pyruvate and phosphate to acetylphosphate and CO₂ at pH 5.7 at 37°C.

Storage and Shipping Information

Storage

-20°C