Creative Enzymes®

Native Pyruvate decarboxylase from Thermophillic bacteria

Cat. No. NATE-1159

Lot. No. (See product label)

Introduction

Description	Pyruvate decarboxylase (PDC) is a homotetrameric enzyme that catalyses the decarboxylation of pyruvic acid to acetaldehyde and carbon dioxide in the cytoplasm. Pyruvate decarboxylase depends on cofactors thiamine pyrophosphate (TPP) and magnesium. PDC contains a β-α-β structure, yielding parallel β-sheets.
Applications	C-C bond formation: ligation of two aldehyde molecules enantioselectively to 2-hydroxy ketones; preparation of (R)-phenylacetylcarbinol (PAC)
Synonyms	Pyruvate decarboxylase; EC 4.1.1.1; α-carboxylase (ambiguous); pyruvic decarboxylase; α-ketoacid carboxylase; 2-oxo-acid carboxy-lyase; 9001-04-1; 2-Oxo-acid carboxy-lyase; PDC

Product Information

Source	Thermophillic bacteria
Form	Frozen Liquid
EC Number	EC 4.1.1.1
CAS No.	9001-04-1
Optimum pH	6
Thermal stability	100% stability after 1 hour at 50°C
Buffer	20 mM Tris-HCl (pH 7.5), 20 mM KCl
Unit Definition	One unit is defined as the amount of enzyme oxidizing 1 μmol of NADH (ε340=6.22 mM-1 cm-1) per 1 minute using pyruvate as a substrate.

Storage and Shipping Information

Storage	Store at -20°C