

Native *Lactobacillus delbrückii* D-Lactate Dehydrogenase, Grade I

Cat. No. NATE-0976

Lot. No. (See product label)

Introduction

Description

In enzymology, a D-lactate dehydrogenase is an enzyme that catalyzes the chemical reaction: (D)-lactate + 2 ferricytochrome c \leftrightarrow pyruvate + 2 ferrocycytochrome c. Thus, the two substrates of this enzyme are (D)-lactate and ferricytochrome c, whereas its two products are pyruvate and ferrocycytochrome c. This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-OH group of donor with a cytochrome as acceptor. This enzyme participates in pyruvate metabolism. It employs one cofactor, FAD.

Applications

Use D-Lactate Dehydrogenase (D-LDH), Grade I, in a variety of diagnostic tests, e.g., in the determination of alanine aminotransferases, lactate or pyruvate. Used for the removal of pyruvate in determinations working with NADH (i.e., triglycerides, lipase, aldolase, aspartate aminotransferases, glutamate dehydrogenase).

Synonyms

D-Lactic Dehydrogenase; (D)-lactate:ferricytochrome-c 2-oxidoreductase; lactic acid dehydrogenase; D-lactate (cytochrome) dehydrogenase; cytochrome-dependent D-(–)-lactate dehydrogenase; D-lactate-cytochrome c reductase; D-(–)-lactic cytochrome c reductase

Product Information

Source

Lactobacillus delbrückii

Appearance

White to yellowish lyophilizate

CAS No.

9028-36-8

Activity

>180 U/mg

Contaminants

Alcohol dehydrogenase: <0.01 Malate dehydrogenase: <0.1 "NADH oxidase": <0.0005 Succinate dehydrogenase: <0.01 NH₄: <0.01 µmol/KU Na (flame photometric): <0.5 µmol/KU K (flame photometric): <0.007 µmol/KU

pH Stability

4.0-10.0

Optimum pH

7

Thermal stability

Up to +50°C

Michaelis Constant

D-lactate: 0.7 x 10⁻¹ mol/l (NAD, 2 mmol/l) Pyruvate: 1.2 x 10⁻³ mol/l (NADH, 0.1 mmol/l) NADH: 7.1 x 10⁻⁵ mol/l (pyruvate, 20 mmol/l)

Specificity

Lactate dehydrogenase is specific for D-(–)-lactate, L(+)-lactate does not react.

Storage and Shipping Information

Stability

At +2 to +8°C within specification range for 12 months. Store dry.