

## 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 ferrocyclochrome c. Thus, the two substrates of this enzyme are (D)-lactate and ferricytochrome c, whereas its two products are pyruvate and ferrocyclochrome 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 NH<sub>4</sub>: <0.01  $\mu$ mol/KU Na (flame photometric): <0.5  $\mu$ mol/KU K (flame photometric): <0.007  $\mu$ mol/KU

**pH Stability** 4.0-10.0

**Optimum pH** 7

**Thermal stability** Up to +50°C

**Michaelis Constant** D-lactate:  $0.7 \times 10^{-1}$  mol/l (NAD, 2 mmol/l) Pyruvate:  $1.2 \times 10^{-3}$  mol/l (NADH, 0.1 mmol/l) NADH:  $7.1 \times 10^{-5}$  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.