Leucine dehydrogenase from Microorganism

Cat. No. NATE-1715

Lot. No. (See product label)

Introduction

Description In enzymology, a leucine dehydrogenase (EC 1.4.1.9) is an enzyme that catalyzes the chemical reaction: L-leucine + H2O + NAD+ ↔ 4-methyl-2-oxopentanoate + NH3 + NADH + H+. The 3 substrates of this enzyme are L-leucine, H2O, and NAD+, whereas its 4 products are 4-methyl-2-oxopentanoate, NH3, NADH, and H+. This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-NH2 group of donors with NAD+ or NADP+ as acceptor. This enzyme participates in valine, leucine and isoleucine degradation and valine, leucine and isoleucine biosynthesis.

Synonyms EC 1.4.1.9; Leucine dehydrogenase; L-leucine: NAD+ oxidoreductase (deaminating); L-leucine dehydrogenase; L-leucine: NAD+ oxidoreductase (deaminating); LeuDH

Product Information

Source Microorganism

Form White powder, lyophilized

EC Number EC 1.4.1.9

CAS No. 9082-71-7

Molecular Weight 43 kDa (SDS-PAGE)

Activity >500U/mg protein

Isoelectric point 6.6

pH Stability 6.0~11.0 (25℃, 15hr)

Optimum pH above11.0(L-Leu→α-K I C), 8.5(α-K I C→L-Leu)

Thermal stability < 55℃(pH 7.0, 20min)

Optimum temperature 55-60℃(L-Leu →α-K I C) above 60℃(α-K I C→L-Leu)

Michaelis Constant 2.6×10^-4 M (NAD) 2.0×10^-3 M(L-Leucine) 6.8×10^-4 M(α-Ketoisocaproate) 4.2×10^-2 M (NH Cl) 2.3×10^-4 M (NADH)

Inhibitors Hg2+

Unit Definition One unit will convert one micromole of L-Leucine to α-Ketoisocaproate per minute at pH 10.5 at 37℃.

Notes INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.

Storage and Shipping Information

Storage Store at -20°C

Storage	Store at -20°C.