dihydrolipoyl dehydrogenase

Cat. No. EXWM-1648

Lot. No. (See product label)

Introduction

Description   A flavoprotein (FAD). A component of the multienzyme 2-oxo-acid dehydrogenase complexes. In the pyruvate dehydrogenase complex, it binds to the core of EC 2.3.1.12, dihydrolipoyllysine-residue acetyltransferase, and catalyses oxidation of its dihydrolipoyl groups. It plays a similar role in the oxoglutarate and 3-methyl-2-oxobutanoate dehydrogenase complexes. Another substrate is the dihydrolipoyl group in the H-protein of the glycine-cleavage system (click here for diagram), in which it acts, together with EC 1.4.4.2, glycine dehydrogenase (decarboxylating), and EC 2.1.2.10, aminomethyltransferase, to break down glycine. It can also use free dihydrolipoate, dihydrolipoamide or dihydrolipoyllysine as substrate. This enzyme was first shown to catalyse the oxidation of NADH by methylene blue; this activity was called diaphorase. The glycine cleavage system is composed of four components that only loosely associate: the P protein (EC 1.4.4.2), the T protein (EC 2.1.2.10), the L protein (EC 1.8.1.4) and the lipoyl-bearing H protein.

Synonyms   LDP-Glc; LDP-Val; dehydrolipoate dehydrogenase; diaphorase; dihydrolipoamide dehydrogenase; dihydrolipoamide:NAD+ oxidoreductase; dihydrolipoic dehydrogenase; dihydrothioctic dehydrogenase; lipoamide dehydrogenase (NADH); lipoamide oxidoreductase (NADH); lipoamide reductase; lipoamide reductase (NADH); lipoate dehydrogenase; lipoic acid dehydrogenase; lipoyl dehydrogenase; protein-6-N-(dihydrolipoyl)lysine:NAD+ oxidoreductase

Product Information

Form   Liquid or lyophilized powder

EC Number   EC 1.8.1.4

CAS No.   9001-18-7

Reaction   protein N6-(dihydrolipoyl)lysine + NAD+ = protein N6-(lipoyl)lysine + NADH + H+

Notes   This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage   Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.