Creative Enzymes®

3-methyl-2-oxobutanoate dehydrogenase (ferredoxin)

Cat. No. EXWM-1230

Lot. No. (See product label)

Introduction

Description	The enzyme is CoA-dependent and contains thiamine diphosphate and iron-sulfur clusters. Preferentially utilizes 2-oxo-acid derivatives of branched chain amino acids, e.g. 3-methyl-2-oxopentanoate, 4-methyl-2-oxo-pentanoate, 2-oxobutyrate and 3-methylthiopropanamine. This enzyme is a member of the 2-oxoacid oxidoreductases, a family of enzymes that oxidatively decarboxylate different 2-oxoacids to form their CoA derivatives, and are differentiated based on their substrate specificity. For examples of other members of this family, see EC 1.2.7.1, pyruvate synthase, and EC 1.2.7.3, 2-oxoglutarate synthase.
Synonyms	2-ketoisovalerate ferredoxin reductase; 3-methyl-2-oxobutanoate synthase (ferredoxin); VOR; branched-chain ketoacid ferredoxin reductase; branched-chain oxo acid ferredoxin reductase; keto-valine-ferredoxin oxidoreductase; ketoisovalerate ferredoxin reductase; 2-oxoisovalerate ferredoxin reductase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.2.7.7
Reaction	3-methyl-2-oxobutanoate + CoA + 2 oxidized ferredoxin = S-(2-methylpropanoyl)-CoA + CO2 + 2 reduced ferredoxin + 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 ℃.