

## 3-methyl-2-oxobutanoate dehydrogenase (2-methylpropanoyl-transferring)

Cat. No. EXWM-1219

Lot. No. (See product label)

### Introduction

**Description** Contains thiamine diphosphate. It acts not only on 3-methyl-2-oxobutanoate, but also on 4-methyl-2-oxopentanoate and (S)-3-methyl-2-oxopentanoate, so that it acts on the 2-oxo acids that derive from the action of transaminases on valine, leucine and isoleucine. It is a component of the multienzyme 3-methyl-2-oxobutanoate dehydrogenase complex in which multiple copies of it are bound to a core of molecules of EC 2.3.1.168, dihydrolipoyllysine-residue (2-methylpropanoyl)transferase, which also binds multiple copies of EC 1.8.1.4, dihydrolipoyl dehydrogenase. It does not act on free lipoamide or lipoyllysine, but only on the lipoyllysine residue in EC 2.3.1.168.

**Synonyms** 2-oxoisocaproate dehydrogenase; 2-oxoisovalerate (lipoate) dehydrogenase; 3-methyl-2-oxobutanoate dehydrogenase (lipoamide); 3-methyl-2-oxobutanoate:lipoamide oxidoreductase (decarboxylating and acceptor-2-methylpropanoylating);  $\alpha$ -keto- $\alpha$ -methylvalerate dehydrogenase;  $\alpha$ -ketoisocaproate dehydrogenase;  $\alpha$ -ketoisocaproic dehydrogenase;  $\alpha$ -ketoisocaproic- $\alpha$ -keto- $\alpha$ -methylvaleric dehydrogenase;  $\alpha$ -ketoisovalerate dehydrogenase;  $\alpha$ -oxoisocaproate dehydrogenase; BCKDH; BCOAD; branched chain keto acid dehydrogenase; branched-chain (-2-oxoacid) dehydrogenase (BCD); branched-chain 2-keto acid dehydrogenase; branched-chain 2-oxo acid dehydrogenase; branched-chain  $\alpha$ -keto acid dehydrogenase; branched-chain  $\alpha$ -oxo acid dehydrogenase; branched-chain keto acid dehydrogenase; branched-chain ketoacid dehydrogenase; dehydrogenase, 2-oxoisovalerate (lipoate); dehydrogenase, branched chain  $\alpha$ -keto acid

### Product Information

**Form** Liquid or lyophilized powder

**EC Number** EC 1.2.4.4

**CAS No.** 9082-72-8

**Reaction** 3-methyl-2-oxobutanoate + [dihydrolipoyllysine-residue (2-methylpropanoyl)transferase] lipoyllysine = [dihydrolipoyllysine-residue (2-methylpropanoyl)transferase] S-(2-methylpropanoyl)dihydrolipoyllysine + CO<sub>2</sub>

**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 °C for short term. For long term storage, store it at -20 °C~-80 °C.