Creative Enzymes®

Acetyl-CoA Carboxylase 2 from Human, Recombinant

Cat. No. NATE-0943

Lot. No. (See product label)

Introduction

Description Acetyl-CoA Carboxylase (ACC) regulates the metabolism of fatty acids. This enzyme catalzes the formation of Malonyl CoA through the irreversible carboxylation of acetyl CoA. There are two main isoforms of Acetyl-CoA carboxylase expressed in mammals, Acetyl-CoA carboxylase 1 (ACACA) and Acetyl-CoA carboxylase 2 (ACACB). ACACA has broad tissue distribution but is enriched in tissues critical for fatty acid sythesis such as adipose tissue. ACACB is enriched in tissues such as skeletal muscle and heart that are critical for fatty acid oxidation. The Acetyl-CoA Carboxylase enzymes are activated by Citrate, glutamate, and dicarboxylic acids and negatively regulated by long and short chain fatty acyl CoAs. Because of thier roles in fatty acid metabolism and oxidation, ACACA and ACACB are therapeutic targets for treating obesity and metabolic syndrome disorders.

Applications Acetyl-CoA carboxylase is responsible for synthesis of Malonyl-CoA which is an inhibitor of fatty acid oxidation in skeletal muscle mitochondria. The enzyme may be used to study the effect on production of malonyl-CoA as well as fatty acid oxidation during exercise. The enzyme also may be used for ACC regulation study in anti-obesity and anti-type 2 diabetes therapeutics.

Synonyms ACACB; ACC2; acetyl-CoA carboxylase beta; acetyl coenzyme A carboxylase; acetyl-CoA carboxylase

Product Information

Species Human

Source Sf9 cells

Form Supplied as a solution in 50 mM Tris-HCl, pH 8.0, 275 mM NaCl, 10% glycerol, 1 mM EDTA and 2 mM DTT.

EC Number EC 6.4.1.2

CAS No. 9023-93-2

Molecular Weight 277 kDa

Activity > 25 units/μg protein

Unit Definition One unit will cause the carboxylation of 1 picomole of acetyl-CoA per minute at pH 7.4 at 30 deg C.

Storage and Shipping Information

Storage Store at -70°C. Avoid multiple freeze-thaw cycles.