

Acetyl-CoA Carboxylase 1 from Human, Recombinant

Cat. No. NATE-0942

Lot. No. (See product label)

Introduction

Description Acetyl-CoA Carboxylase (ACC) regulates the metabolism of fatty acids. This enzyme catalyzes 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 synthesis 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. Acetyl-CoA Carboxylase 1 is essential for breast cancer and prostate cancer cell survival. Because of their roles in fatty acid metabolism and oxidation, ACACA and ACACB are therapeutic targets for treating obesity and metabolic syndrome disorders.

Applications Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

Synonyms ACAC; ACACA; ACC1; ACC; ACCA; acetyl-CoA carboxylase alpha; 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	292.5 kDa
Activity	> 20 units/μg protein
Unit Definition	One unit will cause the carboxylation of 1.0 picomole of acetyl-CoA per minute at pH 7.5 at 30 °C.

Storage and Shipping Information

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