

Recombinant Human ACACA, His-tagged

Cat. No. ACACA-1848H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human ACC1 (amino acids 39 – end) with C-terminal His tag expressed in <i>Baculovirusinfected Sf9 cell</i> expression system. MW= 292.5 kDa.
Species	Human
Source	Sf9 Cells
ProteinLength	39-end a.a.
Description	Acetyl-CoA carboxylase 1 also known as ACC-alpha or ACCa is an enzyme that in humans is encoded by the ACACA gene. Acetyl-CoA carboxylase (ACC) is a complex multifunctional enzyme system. ACC is a biotin-containing enzyme which catalyzes the carboxylation of acetyl-CoA to malonyl-CoA, the rate-limiting step in fatty acid synthesis. There are two ACC forms, alpha and beta, encoded by two different genes. ACC-alpha is highly enriched in lipogenic tissues. The enzyme is under long term control at the transcriptional and translational levels and under short term regulation by the phosphorylation/dephosphorylation of targeted serine residues and by allosteric transformation by citrate or palmitoyl-CoA.
Purity	>60%.
Application	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.
Specific Activity	0.33 pmol/min/μg Reaction buffer: 4 μM ATP, 50mM HEPES (pH 7.5), 2mM MgCl ₂ , 2mM potassium citrate. Substrate= 20 μM acetyl-CoA and 12mM NaHCO ₃ . Incubate

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1h 30min at RT, add 50µl Kinase-Glo® Plus (Promega) to 50 µl of reaction and read luminescence.

Formulated In

50mM Tris-HCl, pH 7.5, 150mM NaCl, 3 mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 50% glycerol and 3mM DTT.

Stability

>12 months at -80°C.

GENE INFORMATION

Gene Name

[ACACA acetyl-Coenzyme A carboxylase alpha \[Homo sapiens \]](#)

Synonyms

acetyl-Coenzyme A carboxylase alpha; ACC; ACAC; ACC1; ACCA; ACACA; ACC-alpha; acetyl-CoA carboxylase 1; acetyl-CoA carboxylase-alpha; EC 6.4.1.2

Gene ID

[31](#)

mRNA Refseq

[NM_198834.1](#)

Protein Refseq

[NP_942131.1](#)

MIM

[200350](#)

UniProt ID

[Q13085](#)

Chromosome Location

17q21

Pathway

Fatty acid biosynthesis; Insulin signaling pathway; Metabolic pathways; Propanoate metabolism; Pyruvate metabolism

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Function

ATP binding; acetyl-CoA carboxylase activity; biotin binding; biotin carboxylase activity; ligase activity; metal ion binding; nucleotide binding; protein binding

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