

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human/Mouse/Rat                                                                                                                                                                                                                                                             |
| <b>Specificity</b>        | Detects human Acetyl-CoA Carboxylase $\alpha$ /ACACA in direct ELISAs and Western blots.                                                                                                                                                                                    |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human Acetyl-CoA Carboxylase $\alpha$ /ACACA<br>Pro1185-Phe1352<br>Accession # Q13085                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

ACAC-A (Acetyl-CoA carboxylase alpha/1; also ACC-1 and biotin carboxylase) is a 260-265 kDa cytoplasmic, phosphorylated biotinyl-enzyme. It is widely expressed, and found to be concentrated in hepatocytes, adipocytes and lactating mammary epithelium. It is one of two gene products (ACAC-B/beta being the other) that catalyze the formation of malonyl-CoA from acetyl-CoA. The formation of malonyl-CoA by ACAC-A is a rate-limiting step in fatty acid synthesis; malonyl-CoA formed by ACAC-B acts as a regulator of CPT-1 during fatty acid oxidation. Human ACAC-A is 2346 amino acids (aa) in length. It contains an N-terminal acetylated Met, one ATP-Grasp domain (aa 275-466) with an embedded biotin carboxylation domain (aa 117-618), a biotinyl-binding region (aa 752-818), and a carboxyltransferase domain (aa 1698-2194). There are at least 17 utilized phosphorylation sites, and two acetylated Lys. ACAC-A exists as either a dimer or higher-order oligomer. Multiple splice variants exist. One possesses an alternative start site at Met79, a second utilizes an alternative start site 37 aa upstream of the standard site, and a third (called PIII) shows a 17 aa substitution for aa 1-75. Over aa 1185-1352, human ACAC-A shares 95% aa identity with mouse ACAC-A, and 97% aa identity with both ovine and bovine ACAC-A.

#### PRODUCT SPECIFIC NOTICES

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