# Recombinant Human AACS/Acetoacetyl-CoA Synthetase Protein (His Tag)

**Catalog No.** PKSH031250

***Note:*** Centrifuge before opening to ensure complete recovery of vial contents.

## Description

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|---|---|
| **Synonyms** | ACSF1;SUR-5 |
| **Species** | Human |
| **Expression Host** | Baculovirus-Insect Cells |
| **Sequence** | Met 1-Phe 672 |
| **Accession** | NP_076417.2 |
| **Calculated Molecular Weight** | 77.0 kDa |
| **Observed molecular weight** | 60 kDa |
| **Tag** | N-His |
| **Bioactivity** | Not validated for activity |

## Properties

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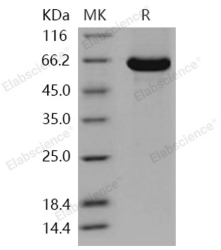
|---|---|
| **Purity** | > 96 % as determined by reducing SDS-PAGE. |
| **Endotoxin** | < 1.0 EU per μg of the protein as determined by the LAL method. |
| **Storage** | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months. |
| **Shipping** | This product is provided as lyophilized powder which is shipped with ice packs. |
| **Formulation** | Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4<br>Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual. |
| **Reconstitution** | Please refer to the printed manual for detailed information. |

## Data




> 96 % as determined by reducing SDS-PAGE.

## Background

Acetoacetyl-CoA Synthetase (AACS) is a novel cytosolic ketone body (acetoacetate)-specific ligase. The AACS in adipose tissue plays an important role in utilizing ketone body for the fatty acid-synthesis during adipose tissue



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development. It had been improved that Acetoacetyl-CoA Synthetase is an essential enzyme for the synthesis of fatty acid and cholesterol from ketone bodies, was found to be highly expressed in mouse adipose tissue, and GC box and C/EBPs motif were crucial for AACS promoter activity in 3T3-L1 adipocytes. Moreover, AACS promoter activity was controlled mainly by C/EBPalpha during adipogenesis. AACS gene expression is particularly abundant in white adipose tissue, as it is induced during adipocyte differentiation. The human AACS promoter is a PPARgamma target gene and that this nuclear receptor is recruited to the AACS promoter by direct interaction with Sp1 (stimulating protein-1). The Acetoacetyl-CoA Synthetase has important roles in the regulation of ketone body utilization in rat liver and that these hypocholesterolemic agents have the ability to remedy the impaired utilization of ketone bodies under the diabetic condition.


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