

AACS Protein, Human, Recombinant (His)

General Information

| | |
|-----------------------|--|
| Synonyms: | SUR-5; acetoacetyl-CoA synthetase; ACSF1 |
| Protein Construction: | A DNA sequence encoding the full length of human AACS isoform a (NP_076417.2) (Met 1-Phe 672) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His |
| Species: | Human |
| Expression Host: | Baculovirus Insect Cells |
| Accession: | Q86V21 |
| Molecular Weight: | 77 kDa (predicted); 60 kDa (reducing conditions) |

QC Testing

| | |
|----------------------|--|
| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity: | > 96 % as determined by SDS-PAGE |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein 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 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.

Reference

- Aguil F, et al. (2010) Transcriptional regulation of the human acetoacetyl-CoA synthetase gene by PPARgamma. *Biochem J.* 427(2): 255-64.
- Hasegawa S, et al. (2008) Transcriptional regulation of ketone body-utilizing enzyme, acetoacetyl-CoA synthetase, by C/EBPalpha during adipocyte differentiation. *Biochim Biophys Acta.* 1779(6-7): 414-9.
- Sato H, et al. (2002) Effects of streptozotocin-induced diabetes on acetoacetyl-CoA synthetase activity in rats. *Biochem Pharmacol.* 63(10): 1851-5.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481