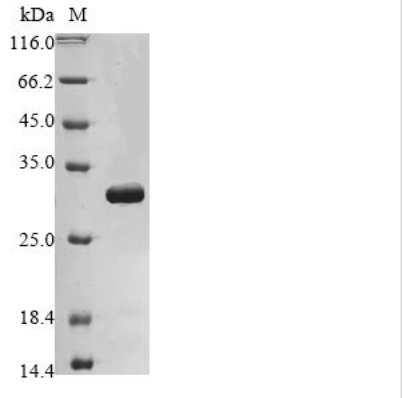
Recombinant Mouse Enoyl-CoA hydratase, mitochondrial (Echs1)

Product Code	CSB-BP804339MOb0
Abbreviation	Recombinant Mouse Echs1 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q8BH95
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	ASGANFQYIITEKKGKNSSVGLIQLNRPKALNALCNGLIEELNQALETFEQDPAV GAIVLTGGDKAFAAGADIKEMQNRTFQDCYSSKFLSHWDHITRVKKPVIAAVN GYALGGGCELAMMCDIIYAGEKAQFGQPEILLGTIPGAGGTQRLTRAVGKSLA MEMVLTGDRISAQDAKQAGLVSKIFPVEKLVEEAIQCAEKIASNSKIVVAMAKE SVNAAFEMTLTEGNKLEKRLFYSTFATDDRREGMTAFVEKRKANFKDH
Research Area	Cancer
Source	Baculovirus
Target Names	Echs1
Expression Region	28-290aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	31.1 kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Mouse Enoyl-CoA hydratase, mitochondrial (Echs1) is produced using a baculovirus expression system and comes with an N-terminal 10xHis tag that makes purification and detection more straightforward. The protein covers the complete mature sequence from amino acids 28 to 290. Purity exceeds 85% based on SDS-PAGE analysis, which should provide dependable results for research work.

Enoyl-CoA hydratase, mitochondrial, appears to play a vital role in the beta-oxidation pathway during fatty acid metabolism. The enzyme catalyzes the hydration of enoyl-CoA to 3-hydroxyacyl-CoA—a step that seems essential for converting stored fats into energy the body can actually use. Understanding this enzyme may be key to grasping how metabolic processes and energy balance work, which is likely why it draws so much attention in metabolic research.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Biochemical Characterization and Enzyme Kinetics Studies

Researchers can use this recombinant mouse Echs1 protein to explore the basic biochemical properties of enoyl-CoA hydratase in laboratory settings. Enzyme kinetics assays with different enoyl-CoA substrates may help determine important parameters like Km, Vmax, and catalytic efficiency. The relatively high purity (>85%) appears suitable for detailed mechanistic studies and analyzing substrate specificity. That N-terminal His-tag makes purification easier and allows for immobilization in continuous assay systems.

2. Antibody Development and Validation

This recombinant protein works well as an antigen for creating mouse Echs1-specific antibodies for research purposes. Since it includes the full-length mature protein (28-290aa), it likely provides broad epitope coverage for both monoclonal and polyclonal antibody production. The His-tag simplifies

purification and quantification of the antigen, which should lead to more consistent immunization protocols. Researchers can then validate the resulting antibodies using this same recombinant protein in ELISA, Western blot, and immunoprecipitation assays.

3. Protein-Protein Interaction Studies

Scientists may find this recombinant Echs1 useful in pull-down assays when searching for potential binding partners in mitochondrial fatty acid oxidation pathways. The N-terminal His-tag works for immobilization on nickel-affinity matrices, making it possible to capture interacting proteins from mitochondrial lysates or purified protein libraries. Co-immunoprecipitation experiments could also help confirm specific protein interactions that initial screening approaches identify.

4. Comparative Species Analysis and Evolutionary Studies

This mouse recombinant protein can be studied alongside Echs1 orthologs from other species for comparative biochemical analysis. Such studies might reveal how catalytic mechanisms, substrate preferences, and structural stability have been conserved—or changed—across different mammalian species during evolution. Testing cross-reactivity with antibodies raised against this mouse protein may also shed light on epitope conservation and any species-specific differences in how Echs1 functions.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.