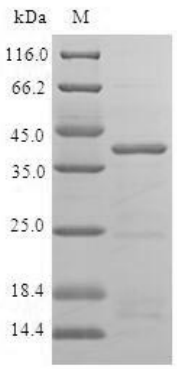
Recombinant Human Iron-sulfur cluster assembly enzyme ISCU, mitochondrial (ISCU)

Product Code	CSB-EP887955HU(A4)
Relevance	Scaffold protein for the de novo synthesis of iron-sulfur (Fe-S) clusters within mitochondria, which is required for maturation of both mitochondrial and cytoplasmic [2Fe-2S] and [4Fe-4S] proteins. First, a [2Fe-2S] cluster is transiently assembled on the scaffold protein ISCU. In a second step, the cluster is released from ISCU, transferred to a glutaredoxin GLRX5, followed by the formation of mitochondrial [2Fe-2S] proteins, the synthesis of [4Fe-4S] clusters and their target-specific insertion into the recipient apoproteins. Cluster assembly on ISCU depends on the function of the cysteine desulfurase complex NFS1-LYRM4/ISD11, which serves as the sulfur donor for cluster synthesis, the iron-binding protein frataxin as the putative iron donor, and the electron transfer chain comprised of ferredoxin reductase and ferredoxin, which receive their electrons from NADH
Abbreviation	Recombinant Human ISCU 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.	Q9H1K1
Alias	NifU-like N-terminal domain-containing protein NifU-like protein
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MAAAGAFRLRRAASALLLRSPRLPARELSAPARLYHKKVVDHYENPRNVGSLDKTSKNVGTGLVGAPACGDVMKLQIQVDEKGKIVDARFKTFGCGSAIASSSLATEWVKGKTVEEALTIKNTDIAKELCLPPVKLHCSMLAEDAIKAALADYKLKQEPKKGEAEKK
Research Area	Signal Transduction
Source	E.coli
Target Names	ISCU
Protein Names	Recommended name: Iron-sulfur cluster assembly enzyme ISCU, mitochondrialAlternative name(s): NifU-like N-terminal domain-containing protein NifU-like protein
Expression Region	1-167aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Tag Info	N-terminal GST-tagged
Mol. Weight	45.0kDa
Protein Length	Full Length

Image



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

Description

Unleash the power of our Recombinant Human ISCU protein in your signal transduction research, and explore its role in the vital process of iron-sulfur cluster biogenesis. ISCU, the Iron-sulfur cluster assembly enzyme, is a critical component in the assembly and transfer of Fe-S clusters, which serve as essential cofactors for a multitude of cellular processes, including electron transfer and enzyme catalysis.

Our Recombinant Human ISCU protein offers a full-length sequence (1-167 amino acids) for optimal functionality and bioactivity. Produced in E. coli, this protein features an N-terminal GST-tag, facilitating efficient purification and detection without affecting the protein's native structure or biological activity. With a purity of greater than 90% as determined by SDS-PAGE, our Recombinant Human ISCU protein guarantees consistent and reliable results, providing a dependable tool for your research endeavors. Choose from liquid or lyophilized powder forms to best suit your experimental needs.

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.