

Iron-sulfur cluster assembly protein 1 (ISU1), Recombinant Protein

Cat RP01861

Size 0.02 mg (E-Coli)/ 0.1 mg (E-Coli)/ 0.02 mg (Yeast)/ 0.1 mg (Yeast)/ 0.02 mg (Baculovirus)/ 1 mg (E-Coli)/ 0.02 mg

(Mammalian-Cell)/ 0.1 mg (Baculovirus)/ 1 mg (Yeast)/ 0.1 mg (Mammalian-Cell)/ 1 mg (Baculovirus)/ 0.5 mg (Mammalian-Arabidopsis thaliana (Mouse-ear cress) Cell)

Full Product Name

Recombinant Arabidopsis thaliana Iron-sulfur cluster assembly protein 1 (ISU1)

Product Gene Name

ISU1 recombinant protein

Purity

Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)

Sequence

PNVGTGLVGA PACGDVMKLQ IKVDEKTGQI VDARFKTFGC GSAIASSSVA TEWVKGKAME DVLTIKNTEI AKHLSLPPVK LHCSMLAEDA IKA AVKDYKE KRVKTNGAAA AGETTQA

Sequence Positions

51-167, Full length protein

Format

Lyophilized or liquid (Format to be determined during the manufacturing process)

Host

E Coli or Yeast or Baculovirus or Mammalian Cell

Molecular Weight

17,915 Da

Storage

Store at -20°C. For long-term storage, store at -20°C or -80°C. Store working aliquots at 4°C for up to one week. Repeated freezing and thawing is not recommended.

Protein Family

Iron sulfur cluster assembly protein

NCBI Accession

NP_193953.1

NCBI GI

15235569

NCBI GenBank Nucleotide

NM_118347.3

NCBI GenelD

828316

NCBI Official Full Name

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

Iron-sulfur cluster assembly protein 1 (ISU1), Recombinant Protein

Cat *RP01861*

Size 0.02 mg (E-Coli)/ 0.1 mg (E-Coli)/ 0.02 mg (Yeast)/ 0.1 mg (Yeast)/ 0.02 mg (Baculovirus)/ 1 mg (E-Coli)/ 0.02 mg

(Mammalian-Cell)/ 0.1 mg (Baculovirus)/ 1 mg (Yeast)/ 0.1 mg

(Mammalian-Cell)/ 1 mg (Baculovirus)/ 0.5 mg (Mammalian-Cell)

ISU1

NCBI Official Synonym Symbols

ATISU1; T10I14.50; T10I14_50

NCBI Protein Information

SufE/NifU family protein

NCBI Summary

Encodes a mitochondrial protein similar to E.coli IscU. In bacteria, IscU is a scaffold protein accepting sulfur and iron to build a transient Fe-S cluster, which is subsequently transferred to a target apoprotein.

UniProt Gene Name

ISU1

UniProt Synonym Gene Names

AtISU1; Protein ISCU-LIKE 1

UniProt Protein Name

Iron-sulfur cluster assembly protein 1

UniProt Synonym Protein Names

NifU-like N-terminal domain-containing protein ISU1; NifU-like protein ISU1

UniProt Primary Accession

O49627

UniProt Secondary Accession

Q8L984

UniProt Related Accession

O49627

UniProt Comments

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 (PubMed:15507320, PubMed:17417719). First, a [2Fe-2S] cluster is transiently assembled on the scaffold protein ISCU (ISU1, ISU2 or ISU3). In a second step, the cluster is released from ISCU, transferred to a glutaredoxin, 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-ISC11, 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.

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY