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ISCU Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP20142b

Specification

ISCU Blocking Peptide (C-term) - Product Information

Primary Accession	Q9H1K1
Other Accession	NP_055116.1

ISCU Blocking Peptide (C-term) - Additional Information

Gene ID 23479

Other Names
Iron-sulfur cluster assembly enzyme ISCU, mitochondrial, NifU-like N-terminal domain-containing protein, NifU-like protein, ISCU, NIFUN

Target/Specificity
The synthetic peptide sequence is selected from aa 153-167 of HUMAN ISCU

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ISCU Blocking Peptide (C-term) - Protein Information

Name ISCU (HGNC:29882)

Synonyms NIFUN

Function
[Isoform 1]: Mitochondrial scaffold protein, of the core iron-sulfur cluster (ISC) assembly complex, that provides the structural architecture on which the [2Fe-2S] clusters are assembled (PubMed:34824239). The core iron-sulfur cluster (ISC) assembly complex is involved in the de novo synthesis of a [2Fe-2S] cluster, the first step of the mitochondrial iron-sulfur protein biogenesis. This process is initiated by the cysteine desulfurase complex (NFS1:LYRM4:NDUFAB1) that produces persulfide which is delivered on the scaffold protein ISCU in a FXN-dependent manner. Then this complex is stabilized by FDX2 which provides reducing equivalents to accomplish the [2Fe-2S] cluster assembly. Finally, the [2Fe-2S] cluster is transferred from ISCU to chaperone proteins, including HSCB, HSPA9 and GLRX5 (PubMed:30031876, PubMed:<a href="http://www.uniprot.org/citations/34824239"

target="_blank">34824239, PubMed:24971490, PubMed:29576242) (Probable). Exists as two slow interchanging conformational states, a structured (S) and disordered (D) form (PubMed:23940031). May modulate NFS1 desulfurase activity in a zinc-dependent manner (PubMed:30031876). Modulates the interaction between FXN and the cysteine desulfurase complex (PubMed:29576242).

Cellular Location
[Isoform 1]: Mitochondrion

Tissue Location
Detected in heart, liver, skeletal muscle, brain, pancreas, kidney, lung and placenta.

ISCU Blocking Peptide (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

ISCU Blocking Peptide (C-term) - Images

ISCU Blocking Peptide (C-term) - Background

Iron-sulfur (Fe-S) clusters are necessary for several mitochondrial enzymes and other subcellular compartment proteins. They contain sulfur and iron, and are created via several steps that include cysteine desulfurases, iron donors, chaperones, and scaffold proteins. This gene encodes the two isomeric forms, ISCU1 and ISCU2, of the Fe-S cluster scaffold protein. Mutations in this gene have been found in patients with myopathy with severe exercise intolerance and myoglobinuria.

ISCU Blocking Peptide (C-term) - References

Chen, Z., et al. Oncogene 29(30):4362-4368(2010)
Chan, S.Y., et al. Cell Metab. 10(4):273-284(2009)
Kollberg, G., et al. Brain 132 (PT 8), 2170-2179 (2009) :
Huang, J., et al. J. Biol. Inorg. Chem. 13(5):825-836(2008)
Mochel, F., et al. Am. J. Hum. Genet. 82(3):652-660(2008)