

NFS1 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP16412c**Specification**

NFS1 Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [Q9Y697](#)**NFS1 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 9054**Other Names**

Cysteine desulfurase, mitochondrial, NFS1, NIFS

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.

NFS1 Antibody (Center) Blocking Peptide - Protein Information**Name** NFS1 {ECO:0000303|PubMed:18650437, ECO:0000312|HGNC:HGNC:15910}**Function**

[Isoform Mitochondrial]: Cysteine desulfurase, of the core iron-sulfur cluster (ISC) assembly complex, that catalyzes the desulfuration of L-cysteine to L-alanine, as component of the cysteine desulfurase complex, leading to the formation of a cysteine persulfide intermediate at the active site cysteine residue and participates in the [2Fe-2S] clusters assembly on the scaffolding protein ISCU (PubMed: [29097656](http://www.uniprot.org/citations/29097656), PubMed: [31101807](http://www.uniprot.org/citations/31101807), PubMed: [18650437](http://www.uniprot.org/citations/18650437)). The persulfide is then transferred on the flexible Cys loop from the catalytic site of NFS1 to the surface of NFS1 (PubMed: [29097656](http://www.uniprot.org/citations/29097656)). After the NFS1-linked persulfide sulfur is transferred to one of the conserved Cys residues of the scaffold, a reaction assisted by FXN (By similarity). 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 (By similarity).

Cellular Location

[Isoform Mitochondrial]: Mitochondrion

Tissue Location

Predominantly expressed in heart and skeletal muscle. Also found in brain, liver and pancreas

NFS1 Antibody (Center) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

NFS1 Antibody (Center) Blocking Peptide - Images**NFS1 Antibody (Center) Blocking Peptide - Background**

Iron-sulfur clusters are required for the function of many cellular enzymes. The proteins encoded by this gene supply inorganic sulfur to these clusters by removing the sulfur from cysteine, creating alanine in the process. This gene uses alternate in-frame translation initiation sites to generate mitochondrial forms and cytoplasmic/nuclear forms. Selection of the alternative initiation sites is determined by the cytosolic pH. The encoded proteins belong to the class-V family of pyridoxal phosphate-dependent aminotransferases. Alternatively spliced transcript variants have been described.

NFS1 Antibody (Center) Blocking Peptide - References

Naamati, A., et al. J. Biol. Chem. 284(44):30200-30208(2009) Marelja, Z., et al. J. Biol. Chem. 283(37):25178-25185(2008) Wu, C., et al. Proteomics 7(11):1775-1785(2007) Lamesch, P., et al. Genomics 89(3):307-315(2007) Biederbick, A., et al. Mol. Cell. Biol. 26(15):5675-5687(2006)