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NFS1 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP16412c

Specification

NFS1 Antibody (Center) Blocking Peptide - Product Information

Primary 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, PubMed:31101807, PubMed:18650437). The persulfide is then transferred on the flexible Cys loop from the catalytic site of NFS1 to the surface of NFS1 (PubMed: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 manycellular enzymes. The proteins encoded by this gene supplyinorganic sulfur to these clusters by removing the sulfur fromcysteine, creating alanine in the process. This gene uses alternatein-frame translation initiation sites to generate mitochondrialforms and cytoplasmic/nuclear forms. Selection of the alternativeinitiation sites is determined by the cytosolic pH. The encodedproteins belong to the class-V family of pyridoxalphosphate-dependent aminotransferases. Alternatively splicedtranscript 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)