10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NFS1 Rabbit pAb

NFS1 Rabbit pAb
Catalog # AP57444

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9Y697
Predicted	Rat, Pig, Dog, Human, Mouse, Chicken, Horse, Saccharomyces cerevisiae
Host	Rabbit
Clonality	Polyclonal
Calculated MW	50196
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NFS1
Epitope Specificity	261-360/457
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Nucleus and Mitochondrion.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. [provided by RefSeq, Nov 2010]

Additional Information

Gene ID	9054
Other Names	Cysteine desulfurase, 2.8.1.7, NFS1 {ECO:0000303|PubMed:18650437, ECO:0000312|HGNC:HGNC:15910}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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:18650437, PubMed:29097656, PubMed:31101807). 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

Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.