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

ISCU Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20142b

Product Information

Application	WB, E
Primary Accession	Q9H1K1
Other Accession	NP_055116.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35591
Calculated MW	17999
Antigen Region	138-167

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	This ISCU antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 138-167 amino acids from the C-terminal region of human ISCU.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ISCU Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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 (Probable) (PubMed:24971490, PubMed:29576242, PubMed:30031876, PubMed:34824239). 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.

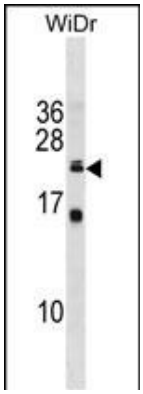
Background

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.

References

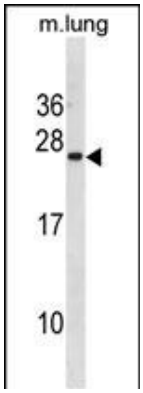
Chen, Z., et al. Oncogene 29(30):4362-4368(2010)
Chan, S.Y., et al. Cell Metab. 10(4):273-284(2009)
Kollberg, G., et al. Brain 132 (PT 8), 2170-2179 (2009) :
Huang, J., et al. J. Biol. Inorg. Chem. 13(5):825-836(2008)
Mochel, F., et al. Am. J. Hum. Genet. 82(3):652-660(2008)

Images



ISCU Antibody (C-term) (Cat. #AP20142b) western blot analysis in WiDr cell line lysates (35ug/lane).This demonstrates the ISCU antibody detected the ISCU protein (arrow).

ISCU Antibody (C-term) (Cat. #AP20142b) western blot analysis in mouse lung tissue lysates (35ug/lane).This demonstrates the ISCU antibody detected the ISCU



protein (arrow).

Citations

- The age-related changes and differences in energy metabolism and glutamate-glutamine recycling in the d-gal-induced and naturally occurring senescent astrocytes in vitro.