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CISD1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP55357

Product Information

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q9NZ45
Reactivity	Rat, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	12199
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CISD1
Epitope Specificity	51-108/108
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	Mitochondrion outer membrane.
SIMILARITY	Belongs to the CISD protein family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a protein with a CDGSH iron-sulfur domain and has been shown to bind a redox-active [2Fe-2S] cluster. The encoded protein has been localized to the outer membrane of mitochondria and is thought to play a role in regulation of oxidation. Genes encoding similar proteins are located on chromosomes 4 and 17, and a pseudogene of this gene is located on chromosome 2. [provided by RefSeq, Feb 2012]

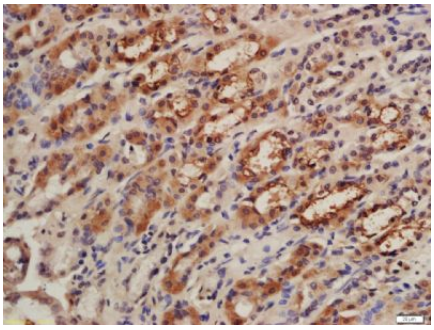
Additional Information

Gene ID	55847
Other Names	CDGSH iron-sulfur domain-containing protein 1, MitoNEET, CISD1, C10orf70, ZCD1
Target/Specificity	Expression is reduced in cells derived from cystic fibrosis patients.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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	CISD1
Synonyms	C10orf70, ZCD1
Function	L-cysteine transaminase that catalyzes the reversible transfer of the amino group from L-cysteine to the alpha-keto acid 2- oxoglutarate to respectively form 2-oxo-3-sulfanylpropanoate and L- glutamate (PubMed:36194135). The catalytic cycle occurs in the presence of pyridoxal 5'-phosphate (PLP) cofactor that facilitates transamination by initially forming an internal aldimine with the epsilon-amino group of active site Lys-55 residue on the enzyme (PLP-enzyme aldimine), subsequently displaced by formation of an external aldimine with the substrate amino group (PLP-L-cysteine aldimine). The external aldimine is further deprotonated to form a carbanion intermediate, which in the presence of 2-oxoglutarate regenerates PLP yielding final products 2-oxo-3-sulfanylpropanoate and L-glutamate. The proton transfer in carbanion intermediate is suggested to be controlled by the active site lysine residue, whereas PLP stabilizes carbanion structure through electron delocalization, also known as the electron sink effect (PubMed:36194135). Plays a key role in regulating maximal capacity for electron transport and oxidative phosphorylation (By similarity). May be involved in iron-sulfur cluster shuttling and/or in redox reactions. Can transfer the [2Fe-2S] cluster to an apo-acceptor protein only when in the oxidation state, likely serving as a redox sensor that regulates mitochondrial iron-sulfur cluster assembly and iron trafficking upon oxidative stress (PubMed:17584744, PubMed:21788481, PubMed:23758282).
Cellular Location	Mitochondrion outer membrane; Single-pass type III membrane protein
Tissue Location	Expression is reduced in cells derived from cystic fibrosis patients.

Images



Tissue/cell: rat stomach tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min; Incubation: Anti-CISD1 Polyclonal Antibody, Unconjugated(AP55357) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining