

# **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

**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

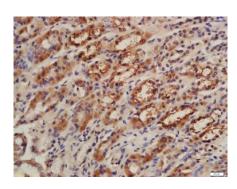
group from L-cysteine to the alpha-keto acid 2- oxoglutarate to respectively form 2-oxo-3-sulfanylpropanoate and L- glutamate (PubMed: 36194135). The catalytic cycle occurs in the presence of pyridoxal 5'-phosphate (PLP) cofactor that facilitates transamination by initially forming an internal aldimine with the epsilon-amino group of active site Lys-55 residue on the enzyme (PLPenzyme 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°C 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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.