

ATP7A Antibody (internal region)
Peptide-affinity purified goat antibody
Catalog # AF2750a

Specification

ATP7A Antibody (internal region) - Product Information

Application	E
Primary Accession	Q04656
Other Accession	NP_000043.3 , 538
Predicted	Human
Host	Goat
Clonality	Polyclonal
Concentration	0.5 mg/ml
Isotype	IgG
Calculated MW	163373

ATP7A Antibody (internal region) - Additional Information

Gene ID 538

Other Names

Copper-transporting ATPase 1, 3.6.3.54, Copper pump 1, Menkes disease-associated protein, ATP7A, MC1, MNK

Format

0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ATP7A Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

ATP7A Antibody (internal region) - Protein Information

Name ATP7A {ECO:0000303|PubMed:28389643, ECO:0000312|HGNC:HGNC:869}

Function

ATP-driven copper (Cu(+)) ion pump that plays an important role in intracellular copper ion homeostasis (PubMed: [10419525](http://www.uniprot.org/citations/10419525), PubMed: [11092760](http://www.uniprot.org/citations/11092760), PubMed: [28389643](http://www.uniprot.org/citations/28389643)). Within a catalytic cycle, acquires Cu(+) ion from donor protein on the cytoplasmic side of the membrane and delivers it to acceptor protein on the luminal side. The transfer of Cu(+) ion across the membrane is coupled to ATP hydrolysis and is associated with

a transient phosphorylation that shifts the pump conformation from inward-facing to outward-facing state (PubMed:10419525, PubMed:19453293, PubMed:19917612, PubMed:28389643, PubMed:31283225). Under physiological conditions, at low cytosolic copper concentration, it is localized at the trans-Golgi network (TGN) where it transfers Cu(+) ions to cuproenzymes of the secretory pathway (PubMed:11092760, PubMed:28389643). Upon elevated cytosolic copper concentrations, it relocates to the plasma membrane where it is responsible for the export of excess Cu(+) ions (PubMed:10419525, PubMed:28389643). May play a dual role in neuron function and survival by regulating copper efflux and neuronal transmission at the synapse as well as by supplying Cu(+) ions to enzymes such as PAM, TYR and SOD3 (By similarity) (PubMed:28389643). In the melanosomes of pigmented cells, provides copper cofactor to TYR to form an active TYR holoenzyme for melanin biosynthesis (By similarity).

Cellular Location

Golgi apparatus, trans-Golgi network membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein Melanosome membrane {ECO:0000250|UniProtKB:Q64430}; Multi-pass membrane protein. Early endosome membrane {ECO:0000250|UniProtKB:Q64430}; Multi-pass membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:P70705} Cell projection, dendrite {ECO:0000250|UniProtKB:P70705}. Postsynaptic density {ECO:0000250|UniProtKB:P70705}. Note=Cycles constitutively between the TGN and the plasma membrane (PubMed:9147644). Predominantly found in the TGN and relocated to the plasma membrane in response to elevated copper levels. Targeting into melanosomes is regulated by BLOC-1 complex (By similarity). In response to glutamate, translocates to neuron processes with a minor fraction at extrasynaptic sites (By similarity). {ECO:0000250|UniProtKB:P70705, ECO:0000250|UniProtKB:Q64430, ECO:0000269|PubMed:9147644} [Isoform 5]: Endoplasmic reticulum

Tissue Location

Widely expressed including in heart, brain, lung, muscle, kidney, pancreas, and to a lesser extent placenta (PubMed:8490646, PubMed:8490659). Expressed in fibroblasts, aortic smooth muscle cells, aortic endothelial cells and umbilical vein endothelial cells (at protein level) (PubMed:16371425)

ATP7A Antibody (internal region) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ATP7A Antibody (internal region) - Images

ATP7A Antibody (internal region) - References

Role of the Menkes copper-transporting ATPase in NMDA receptor-mediated neuronal toxicity.
Schlief ML, West T, Craig AM, Holtzman DM, Gitlin JD. Proc Natl Acad Sci U S A. 2006 Oct
3;103(40):14919-24. Epub 2006 Sep 26. PMID: 17003121