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ATP7A antibody - middle region

Rabbit Polyclonal Antibody
Catalog # AI10563

Product Information

Application	WB
Primary Accession	Q04656
Other Accession	NM_000052, NP_000043
Reactivity	Human, Mouse, Rat, Pig, Dog, Bovine
Predicted	Human, Mouse, Rat, Pig, Chicken, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	163373

Additional Information

Gene ID	538
Alias Symbol	MK, MNK, DSMAX, SMAX3
Other Names	Copper-transporting ATPase 1, 3.6.3.54, Copper pump 1, Menkes disease-associated protein, ATP7A, MC1, MNK
Target/Specificity	This antibody is will react to isoforms 1-5.
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-ATP7A antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	ATP7A antibody - middle region is for research use only and not for use in diagnostic or therapeutic procedures.

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, PubMed:11092760, PubMed: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 lumenal 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 relocalizes 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 cooper 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 relocalized 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

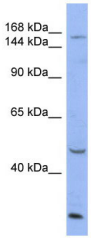
Tissue Location

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)

References

Zhang,L.P., (2008) Chin. Med. J. 121 (2), 175-177 Reconstitution and Storage:For short term use, store at 2-8C up to 1 week. For long term storage, store at -20C in small aliquots to prevent freeze-thaw cycles.

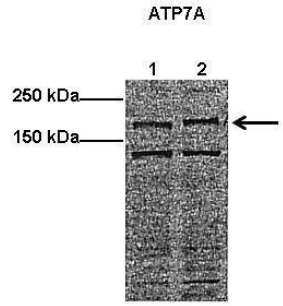
Images



WB Suggested Anti-ATP7A Antibody Titration: .2-1 ug/ml
ELISA Titer: 1:3125
Positive Control: HT18 cell lysate

ATP7A is supported by BioGPS gene expression data to be expressed in HT18

Lanes:
Lane1: 4 ug mouse endothelial firboblast lysate
Lane2: 4 ug human HUVEC lysate
Primary Antibody Dilution:
1:5
Secondary Antibody:
Anti-rabbit HRP



See Immunoblot 2 Data and Customer Feedback for more Information

Secondary Antibody Dilution:
1:2
Gene Name:
ATP7A
Submitted by:
Anonymous

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