

**Anti-MNK / ATP7A Antibody (aa591-640)**  
**Rabbit Anti Human Polyclonal Antibody**  
**Catalog # ALS18088****Specification****Anti-MNK / ATP7A Antibody (aa591-640) - Product Information**

Application	IHC-P, E
Primary Accession	<a href="#">Q04656</a>
Predicted	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	163373

**Anti-MNK / ATP7A Antibody (aa591-640) - Additional Information****Gene ID 538**Alias Symbol **ATP7A****Other Names**

ATP7A, Copper pump 1, Menkes disease ATPase, MNK, MK, SMAX3, Menkes syndrome, OHS, Copper-transporting ATPase 1, DSMAX, MC1

**Target/Specificity**

ATP7A antibody detects endogenous levels of ATP7A.

**Reconstitution & Storage**

Immunoaffinity purified

**Precautions**

Anti-MNK / ATP7A Antibody (aa591-640) is for research use only and not for use in diagnostic or therapeutic procedures.

**Anti-MNK / ATP7A Antibody (aa591-640) - 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](http://www.uniprot.org/citations/10419525), PubMed: [19453293](http://www.uniprot.org/citations/19453293)).

target="\_blank">19453293</a>, PubMed:<a href="http://www.uniprot.org/citations/19917612" target="\_blank">19917612</a>, PubMed:<a href="http://www.uniprot.org/citations/31283225" target="\_blank">31283225</a>, PubMed:<a href="http://www.uniprot.org/citations/28389643" target="\_blank">28389643</a>). 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:<a href="http://www.uniprot.org/citations/28389643" target="\_blank">28389643</a>, PubMed:<a href="http://www.uniprot.org/citations/11092760" target="\_blank">11092760</a>). Upon elevated cytosolic copper concentrations, it relocates to the plasma membrane where it is responsible for the export of excess Cu(+) ions (PubMed:<a href="http://www.uniprot.org/citations/10419525" target="\_blank">10419525</a>, PubMed:<a href="http://www.uniprot.org/citations/28389643" target="\_blank">28389643</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/28389643" target="\_blank">28389643</a>) (By similarity). 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)

## Anti-MNK / ATP7A Antibody (aa591-640) - 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](#)

## Anti-MNK / ATP7A Antibody (aa591-640) - Images