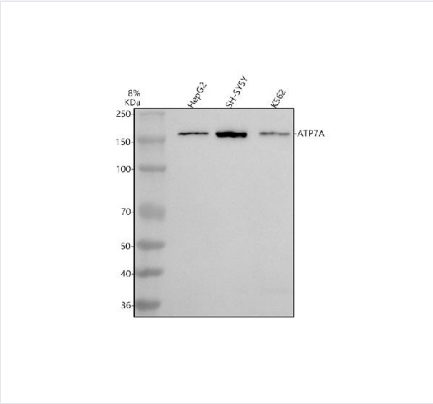
ATP7A Antibody – Rabbit Polyclonal

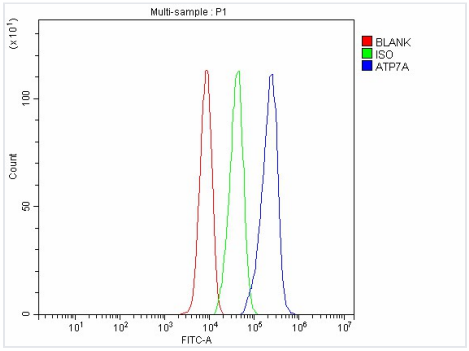
PRODUCT OVERVIEW

Product Name	ATP7A, Polyclonal Antibody
Full Product Name	Anti-ATP7A Antibody Picoband
Product Gene Name	anti-ATP7A antibody
Product Synonym Names	Copper-transporting ATPase 1; ATPase copper transporting alpha; ATP7A; MC1; MNK; Copper-transporting ATPase 1; EC 7.2.2.8; Copper pump 1; Menkes disease-associated protein
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Purity/Purification	Immunogen affinity purified.
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.
Molecular Weight	11,522 Da
OMIM	phenotype 309400
3D Structure	ModBase 3D Structure for Q04656
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human ATP7A, which shares 79.2% amino acid (aa) sequence identity with both mouse and rat ATP7A.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins
Product Categories/Family for anti-ATP7A antibody	Primary Antibodies
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-ATP7A antibody	Western Blot (WB), Flow Cytometry (FC/FACS)
Application Notes for anti-ATP7A antibody	WB: 0.25-0.5ug/ml, Human FC/FACS (Fixed): 1-3ug/1x10^6 cells, Human
Related Product Information for anti-ATP7A antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product References and Citations for anti-ATP7A antibody	1. Cecchi, C., Biasotto, M., Tosi, M., Avner, P. The mottled mouse as a model for human Menkes disease: identification of mutations in the Atp7a gene. Hum. Molec. Genet. 6: 425-433, 1997. Note: Erratum: Hum. Molec. Genet. 6: 829 only, 1997.2. Chelly, J., Tumer, Z., Tonnesen, T., Petterson, A., Ishikawa-Brush, Y., Tommerup, N., Horn, N., Monaco, A. P. Isolation of a candidate gene for Menkes disease that encodes a potential heavy metal binding protein. Nature Genet. 3: 14-19, 1993.3. Christodoulou, J., Danks, D. M., Sarkar, B., Baerlocher, K. E., Casey, R., Horn, N., Tumer, Z., Clarke, J. T. R. Early treatment of Menkes disease with parenteral cooper (sic)-histidine: long-term follow-up of four treated patients. Am. J. Med. Genet. 76: 154-164, 1998.

Other Notes	Small volumes of anti-ATP7A antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ATP7A purchase	MBS1758150 is an antibody targeting ATP7A. Also known as Anti-ATP7A Antibody Picoband. Reactive in Human. Host: Rabbit.



Western Blot (WB) of anti-ATP7A antibody
Figure 1. Western blot analysis of ATP7A using anti-ATP7A antibody (MBS1758150).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human HepG2 whole cell lysates,Lane 2: human SH-SY5Y whole cell lysates,Lane 3: human K562 whole cell lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ATP7A antigen affinity purified polyclonal antibody (#MBS1758150) at 0.5ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (#MBS176460) with Tanon 5200 system. A specific band was detected for ATP7A at approximately 163 kDa. The expected band size for ATP7A is at 163 kDa.



Flow Cytometry (FC/FACS) of anti-ATP7A antibody
Figure 2. Flow Cytometry analysis of HepG2 cells using anti-ATP7A antibody (MBS1758150).Overlay histogram showing HepG2 cells stained with MBS1758150 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ATP7A Antibody (MBS1758150, 1ug/1x106 cells) for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG (MBS177405, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ATP7A. It may not necessarily be applicable to this product.

NCBI GI #	115529486
NCBI GeneID	538
NCBI Accession #	NP_000043.3
UniProt Primary Accession #	Q04656
UniProt Secondary Accession #	O00227; O00745; Q9BYY8; B1AT72
UniProt Related Accession #	Q04656
GenBank Nucleotide #	NM_000052.5
NCBI Official Full Name	copper-transporting ATPase 1
NCBI Official Synonym Full Names	ATPase, Cu++ transporting, alpha polypeptide
NCBI Official Symbol	ATP7A
NCBI Official Synonym Symbols	MK; MNK; DSMAX; SMAX3
UniProt Protein Name	Copper-transporting ATPase 1
UniProt Synonym Protein Names	Copper pump 1; Menkes disease-associated protein
Protein Family	Peroxidase

UniProt Gene Name	ATP7A
UniProt Synonym Gene Names	MC1; MNK
UniProt Entry Name	ATP7A_HUMAN
NCBI Protein Information	copper-transporting ATPase 1; copper pump 1; Cu++-transporting P-type ATPase; Menkes disease-associated protein
NCBI Summary for ATP7A	This gene encodes a transmembrane protein that functions in copper transport across membranes. This protein is localized to the trans Golgi network, where it is predicted to supply copper to copper-dependent enzymes in the secretory pathway. It relocalizes to the plasma membrane under conditions of elevated extracellular copper, and functions in the efflux of copper from cells. Mutations in this gene are associated with Menkes disease, X-linked distal spinal muscular atrophy, and occipital horn syndrome. Alternatively-spliced transcript variants have been observed. [provided by RefSeq, Aug 2013]
UniProt Comments for ATP7A	ATP7A: a multi-pass membrane protein and cation transporting ATPase. A copper-transporter that may supply copper to copper-requiring proteins within the secretory pathway when localized in the trans-Golgi network. Cycles between the trans-Golgi network (TGN) and the plasma membrane. Predominantly found in the TGN and relocalizes to the plasma membrane in response to elevated extracellular copper levels where it functions in the efflux of copper from cells. Defects in ATP7A are the cause of Menkes syndrome (MD) and occipital horn syndrome (OHS). Six alternatively spliced isoforms have been described. The longest isoform has 6 transmembrane regions. Isoform 3, lacking all 6 transmembrane regions and 5 heavy-metal-associated (HMA) domains, is probably cytosolic. Isoform 6 lacks all transmembrane regions and 5 heavy-metal-associated (HMA) domains, but has a putative nuclear localization signal attached at the N-terminus. Protein type: Transporter, ion channel; Hydrolase; Vesicle; Cell development/differentiation; EC 3.6.3.54; Membrane protein, multi-pass; Membrane protein, integral; Chaperone; Apoptosis; Transporter Chromosomal Location of Human Ortholog: Xq21.1 Cellular Component: Golgi apparatus; neuron projection; brush border membrane; basolateral plasma membrane; endoplasmic reticulum; integral to membrane; trans-Golgi network; cytosol; secretory granule; trans-Golgi network transport vesicle; membrane; cell soma; perinuclear region of cytoplasm; late endosome; plasma membrane Molecular Function: copper ion transmembrane transporter activity; protein binding; copper ion binding; copper-exporting ATPase activity; superoxide dismutase copper chaperone activity; ATP binding; copper-dependent protein binding Biological Process: skin development; positive regulation of catalytic activity; extracellular matrix organization and biogenesis; collagen fibril organization; catecholamine metabolic process; dopamine metabolic process; norepinephrine biosynthetic process; tryptophan metabolic process; plasma membrane copper ion transport; negative regulation of neuron apoptosis; central nervous system neuron development; positive regulation of oxidoreductase activity; mitochondrion organization and biogenesis; release of cytochrome c from mitochondria; response to iron(III) ion; dendrite morphogenesis; detoxification of copper ion; ATP metabolic process; elastic fiber assembly; response to reactive oxygen species; response to zinc ion; regulation of gene expression; regulation of oxidative phosphorylation; cerebellar Purkinje cell differentiation; copper ion import; alveolus development; lactation; removal of superoxide radicals; locomotory behavior; pyramidal neuron development; norepinephrine metabolic process; peptidyl-lysine modification; epinephrine metabolic process; transmembrane transport; serotonin metabolic process; blood vessel development; negative regulation of metalloenzyme activity; hair follicle morphogenesis; cellular copper ion homeostasis; T-helper cell differentiation; in utero embryonic development; tyrosine metabolic process; positive regulation of metalloenzyme activity; copper ion transport; elastin biosynthetic process; pigmentation; cartilage development; blood vessel remodeling; copper ion export; neurite morphogenesis Disease: Occipital Horn Syndrome; Menkes Disease; Spinal Muscular Atrophy, Distal, X-linked 3
Research Articles on ATP7A	**1.** This is the first time the activation of pseudo-exons is demonstrated in the ATP7A gene, and it demonstrates the usefulness of RNA analysis, in terms of revealing disease-causing mutations in noncoding regions.
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