Recombinant Human ATPase, Cu++ Transporting, Alpha Polypeptide

Cat. No. ATP7A-459H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human ATPase, Cu++ transporting, alpha polypeptide expressed in*E.coli*was cloned from human cDNA with a C-terminal purification tag. The protein consists of the sixth soluble domain of the human Menkes protein (residues 562-633 swissprot accession Q04656). MW = 8.4 kDa.
Species	Human
Source	E.coli
ProteinLength	562-633 a.a.
Description	ATP7A (ATPase, Cu++ transporting, alpha polypeptide (Menkes syndrome)) is a human gene that provides instructions to make a protein that is important for regulating copper levels in the body. This protein is found in most tissues, but it is absent from the liver. In the small intestine, the ATP7A protein helps control the absorption of copper from food. In other organs and tissues, the ATP7A protein has a dual role and shuttles between two locations within the cell. The protein normally resides in a cell structure called the Golgi apparatus, which modifies and transports newly produced enzymes and other proteins. Here, the ATP7A protein supplies copper to certain enzymes that are critical for the structure and function of bone, skin, hair, blood vessels, and the nervous system. If copper levels in the cell environment are elevated, however, the ATP7A protein moves to the cell membrane and eliminates excess copper from the cell. The ATP7A gene is located on the long (q)

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	arm of the X chromosome between positions 13.2 and 13.3, from base pair 76,972,353 to base pair 77,112,036.
Purity	> 95% by SDS-PAGE. The protein was observed as a single band migrating at amolecular weight of (<14 kDa).
Supplied As	1.0 mg/ml in 50 mM Tris/Mes pH 8.0, 2mM DTT (Dithiothreitol). The concentration is calculated from the absorbance at 280nm (ε280 = 3105 M-1 cm-1).
Characteristics	To avoid precipitation handle the protein in an inert atmosphere. The product can be concentrated to a maximum of 1mM.
Storage	-20º C. The protein is stable at 4 ºC for at least 2 weeks and at 25 ºC for at least several hours. After initial defrost, aliquot product into individual tubes and refreeze at -20º C. Avoid repeated freeze/defrost cycles.

GENE INFORMATION

Gene Name	ATP7A ATPase, Cu++ transporting, alpha polypeptide [Homo sapiens]
Synonyms	ATP7A; ATPase, Cu++ Transporting, Alpha Polypeptide; MNK; FLJ17790; ATP7A; MK; copper pump 1; Copper pump; copper-transporting ATPase 1; Cu++-transporting P-type ATPase; Menkes syndrome; Menkes disease-associated protein; Menkes disease-associated protein; OTTHUMP00000023593; OTTHUMP00000062077
Gene ID	538
mRNA Refseq	NM_000052
Protein Refseq	NP_000043

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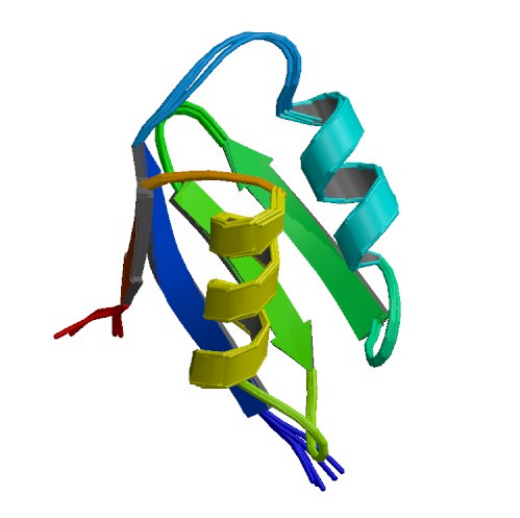
MIM	300011
UniProt ID	Q04656
Chromosome Location	Xq13.2-q13.3
Function	ATP binding; ATPase activity, coupled to transmembrane movement of ions, phosphorylative mechanism; copper ion binding; copper ion transmembrane transporter activity; copper-dependent protein binding; copper-exporting ATPase activity; hydrolase activity; hydrolase activity, acting on acid anhydrides, catalyzing transmembrane movement of substances; magnesium ion binding; metal ion transmembrane transporter activity; nucleotide binding; superoxide dismutase copper chaperone activity
PDB rendering based on 1aw0.	

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