Recombinant Human Menkes Protein, Domain 1

Cat. No. ATP7A-454H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human Menkes Protein (ATP7A) cloned from human cDNA with a C-terminal purification tag was expressed in*E. coli.*The protein consists of the first soluble domain of the human Menkes protein (residues 5-77 swissprot accessionQ04656). The protein is in the apo form, and has a molecular mass of 9.4 kDa.
Species	Human
Source	E.coli
ProteinLength	5-77 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.

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Supplied As	2 mg/ml in KHPO4/ K2HPO4 20mM pH 7, DTT (Dithiothreitol) 5mM. The concentration is calculated from the absorbance at 280nm (ε280 = 7115 M-1 cm-1).
Purity	>95% by SDS-PAGE. The protein was observed as a single band migrating at a molecular weight <10 kDa.
Characteristics	To avoid precipitation handle the proteinin an inert atmosphere. The product can be concentrated to a maximum of 0.4 mM.
Storage	-20º C. The protein is stable at 4 ºC for at least 1 week 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	MK; MNK; MC1; OHS; FLJ17790; ATP7A; EC 3.6.3.4; OTTHUMP00000023593; OTTHUMP00000062077; Menkes syndrome; copper-transporting ATPase 1 ATPase, Cu++ transporting, alpha polypeptide; copper pump 1; copper-transporting ATPase 1; Cu++-transporting P-type ATPase; Menkes disease-associated protein
Gene ID	538
mRNA Refseq	NM_000052
Protein Refseq	NP_000043
MIM	309400
UniProt ID	Q04656

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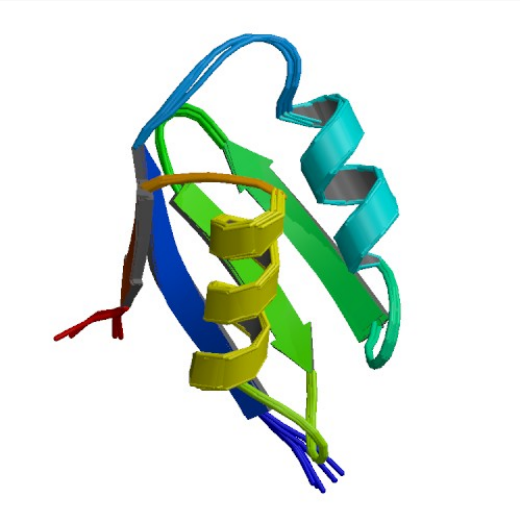
Function	ATP binding; ATPase activity, coupled to transmembrane movement of ions, phosphorylative mechanism; copper ion binding; copper ion transmembrane transporter activity; copper-dependent protein binding; copper-exporting ATPase activity; hydrolase activity; hydrolase activity, acting on acid anhydrides, catalyzing transmembrane movement of substances; magnesium ion binding; metal ion transmembrane transporter activity; nucleotide binding; superoxide dismutase copper chaperone activity
PDBrendering based on 1aw0.	

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