AQP1 Human Protein

PRODUCT OVERVIEW

Product Name	AQP1, Protein
Full Product Name	Human AQP1-Strep full length protein-synthetic nanodisc
Product Gene Name	AQP1 protein
Product Synonym Names	AQP-CHIP; CHIP28; CO
Host	HEK293
Form/Format	Lyophilized from nanodisc solubilization buffer (20 mM Tris-HCl, 150 mM NaCl, pH 8.0). Normally 5%-8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for specific instructions. Do not use solvents with pH lower
Preparation and Storage	Store at -20 degree C to -80 degree C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80 degree C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.
Molecular Weight	28,526 Da
Chromosome Location	Chromosome: 7; NC_000007.13 (30951415..30965131). Location: 7p14
OMIM	107776
3D Structure	ModBase 3D Structure for P29972
Tag	C-DYKDDDDK&Strep
Product Categories/Family for AQP1 protein	Full Length Transmembrane Proteins; Ion Channels: Other
Related Product Information for AQP1 protein	This gene encodes a small integral membrane protein with six bilayer spanning domains that functions as a water channel protein. This protein permits passive transport of water along an osmotic gradient. This gene is a possible candidate for disorders involving imbalance in ocular fluid movement. [provided by RefSeq, Aug 2016]
Other Notes	Small volumes of AQP1 protein 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 AQP1 purchase	MBS1883663 is a protein targeting AQP1. Also known as Human AQP1-Strep full length protein-synthetic nanodisc. Host: HEK293.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for AQP1. It may not necessarily be applicable to this product.

NCBI GI #	297307116
NCBI GeneID	358
NCBI Accession #	NP_001171989.1
UniProt Primary Accession #	P29972
UniProt Secondary Accession #	Q8TBI5; Q8TDC1; B5BU39; F5GY19
UniProt Related Accession #	P29972
GenBank Nucleotide #	NM_001185060.1

NCBI Official Full Name	aquaporin-1 isoform 2
NCBI Official Synonym Full Names	aquaporin 1 (Colton blood group)
NCBI Official Symbol	AQP1
NCBI Official Synonym Symbols	CO; CHIP28; AQP-CHIP
UniProt Protein Name	Aquaporin-1
UniProt Synonym Protein Names	Aquaporin-CHIP; Urine water channel; Water channel protein for red blood cells and kidney proximal tubule
UniProt Gene Name	AQP1
UniProt Synonym Gene Names	CHIP28; AQP-1
UniProt Entry Name	AQP1_HUMAN
NCBI Protein Information	aquaporin-1; aquaporin-CHIP; Colton blood group; urine water channel; channel-like integral membrane protein, 28-kDa; water channel protein for red blood cells and kidney proximal tubule; aquaporin 1 (channel-forming integral protein, 28kDa, CO blood grou
NCBI Summary for AQP1	Aquaporins are a family of small integral membrane proteins related to the major intrinsic protein (MIP or AQP0). This gene encodes an aquaporin which functions as a molecular water channel protein. It is a homotetramer with 6 bilayer spanning domains and N-glycosylation sites. The protein physically resembles channel proteins and is abundant in erythrocytes and renal tubes. The gene encoding this aquaporin is a possible candidate for disorders involving imbalance in ocular fluid movement. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jun 2010]
UniProt Comments for AQP1	AQP1: Forms a water-specific channel that provides the plasma membranes of red cells and kidney proximal tubules with high permeability to water, thereby permitting water to move in the direction of an osmotic gradient. Belongs to the MIP/aquaporin (TC 1.A.8) family. Protein type: Transporter, aquaporin family; Membrane protein, integral; Transporter; Membrane protein, multi-pass Chromosomal Location of Human Ortholog: 7p14 Cellular Component: nuclear membrane; integral to plasma membrane; basolateral plasma membrane; brush border membrane; apical part of cell; apical plasma membrane; cytoplasm; plasma membrane; basal plasma membrane; nerve terminal; nucleus; sarcolemma; brush border Molecular Function: protein binding; ephrin receptor binding; potassium channel activity; water transporter activity; intracellular cGMP activated cation channel activity; ammonium transmembrane transporter activity; glycerol transmembrane transporter activity; potassium ion transmembrane transporter activity; nitric oxide transporter activity; water channel activity; transmembrane transporter activity; glycerol channel activity Biological Process: cGMP biosynthetic process; glycerol transport; cerebrospinal fluid secretion; wound healing; cellular response to stress; water transport; carbon dioxide transport; negative regulation of caspase activity; pancreatic juice secretion; sensory perception of pain; positive regulation of saliva secretion; odontogenesis; positive regulation of fibroblast proliferation; hyperosmotic salinity response; nitric oxide transport; bicarbonate transport; multicellular organismal water homeostasis; cellular homeostasis; transmembrane transport; potassium ion transport; lipid digestion; lateral ventricle development; response to drug; cellular water homeostasis; secretory granule organization and biogenesis; glomerular filtration; ammonium transport; renal water transport; positive regulation of angiogenesis; camera-type eye morphogenesis; adrenocorticotropin hormone secretion; response to estrogen stimulus; establishment and/or maintenance of actin cytoskeleton polarity; renal water homeostasis; cell volume homeostasis; negative regulation of apoptosis Disease: Blood Group--colton
Research Articles on AQP1	**1.** Estrogen induces AQP1 expression by activating ERE in the promoter of the Aqp1 gene, resulting in tubulogenesis of vascular endothelial cells.

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