

ABCD1 Protein, Human, Recombinant (His)

General Information

Synonyms:	ATP-binding cassette sub-family D member 1;ABCD1;ALD;Adrenoleukodystrophy protein (ALDP)
Protein Construction:	1-745 aa
Species:	Human
Expression Host:	E. coli
Accession:	P33897
Molecular Weight:	84.9 kDa (predicted)
AA Sequence:	MPVLSRPRPWRGNTLKR TAVLLALAAYGAHKVYPLVRQCLAPARGLQAPAGEPTQEASGVAAAKAGMNRV FLQRLWLLRLLFPRVLCRETGLLALHSAALVSRTFLSVYVARLDGRLARCIVRKDPRAFGWQLLQWLLIALPAT FVNSAIRYLEGQLALSFRSRLVAHAYRLYFSQQTYRVS NMDGRLRNP DQSLTEDVVAFAASVAHLYSNLTK PLLDVAVTSYLLRAARSRGAGTAWPSA IAGLVVFLTANVLR AFSPKFGELVAEEARRKGELRYMHSRVVANS EEIAFYGGHEVELALLQRSYQDLASQINLILLERLWYVMLEQFLMKYVWSASGLLMVAVPIITATGYSESDAEA VKKAAL EKKEELVSE RTEAFTIARNLLTAAADAIERIMSSYKEVTELAGYTARVHEMFQVFEDVQRCHFKRPR ELED AQAGSGTIGRSGVRVEGPLKIRGQVVDVEQGIICENIPIVTPSGEVVVASLNIRVEEGMHLLITGPNGCGK SSLFRILGGLWPTYGGVLYKPPPQRMFYIPQRPYMSVGS LRDQVIYPDSVEDMQRKGYSEQDLEAILDVVHLH HILQREGGWEAMCDWKDVL SGG EKQRIGMARMFYHRPKYALLDECTS AVSIDVEGKIFQAAKDAGIALLSITH RPSLWKYHTHLLQFDGEGGWKFEKLD SAARLSL TEEKQRLEQQLAGIPKMQRRLQELCQILGEAVAPAHVPA PSPQGPGLQGAST

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized ABCD1 at 5 µg/mL can bind human PEX19, the EC50 of human PEX19 protein is 22.96-33.00 µg/mL.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months.

Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

ATP-dependent transporter of the ATP-binding cassette (ABC) family involved in the transport of very long chain fatty acid (VLCFA)-CoA from the cytosol to the peroxisome lumen. Coupled to the ATP-dependent transporter activity has also a fatty acyl-CoA thioesterase activity (ACOT) and hydrolyzes VLCFA-CoA into VLCFA prior their ATP-dependent transport into peroxisomes, the ACOT activity is essential during this transport process. Thus, plays a role in regulation of VLCFAs and energy metabolism namely, in the degradation and biosynthesis of fatty acids by beta-oxidation, mitochondrial function and microsomal fatty acid elongation. Involved in several processes; namely, controls the active myelination phase by negatively regulating the microsomal fatty acid elongation activity and may also play a role in axon and myelin maintenance. Controls also the cellular response to oxidative stress by regulating mitochondrial functions such as mitochondrial oxidative phosphorylation and depolarization. And finally controls the inflammatory response by positively regulating peroxisomal beta-oxidation of VLCFAs.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481