

ABCD2 Protein, Human (Cell-Free, His)

Cat. No.:	HY-P702196
Synonyms:	ATP-binding cassette sub-family D member 2; Adrenoleukodystrophy-like 1; Adrenoleukodystrophy-related protein; hALDR
Species:	Human
Source:	E. coli Cell-free
Accession:	Q9UBJ2 (M1-S740)
Gene ID:	225
Molecular Weight:	89.3 kDa

PROPERTIES

AA Sequence

M T H M L N A A A D	R V K W T R S S A A	K R A A C L V A A A	Y A L K T L Y P I I
G K R L K Q S G H G	K K K A A A Y P A A	E N T E I L H C T E	T I C E K P S P G V
N A D F F K Q L L E	L R K I L F P K L V	T T E T G W L C L H	S V A L I S R T F L
S I Y V A G L D G K	I V K S I V E K K P	R T F I I K L I K W	L M I A I P A T F V
N S A I R Y L E C K	L A L A F R T R L V	D H A Y E T Y F T N	Q T Y Y K V I N M D
G R L A N P D Q S L	T E D I M M F S Q S	V A H L Y S N L T K	P I L D V M L T S Y
T L I Q T A T S R G	A S P I G P T L L A	G L V V Y A T A K V	L K A C S P K F G K
L V A E E A H R K G	Y L R Y V H S R I I	A N V E E I A F Y R	G H K V E M K Q L Q
K S Y K A L A D Q M	N L I L S K R L W Y	I M I E Q F L M K Y	V W S S S G L I M V
A I P I I T A T G F	A D G E D G Q K Q V	M V S E R T E A F T	T A R N L L A S G A
D A I E R I M S S Y	K E V T E L A G Y T	A R V Y N M F W V F	D E V K R G I Y K R
T A V I Q E S E S H	S K N G A K V E L P	L S D T L A I K G K	V I D V D H G I I C
E N V P I I T P A G	E V V A S R L N F K	V E E G M H L L I T	G P N G C G K S S L
F R I L S G L W P V	Y E G V L Y K P P P	Q H M F Y I P Q R P	Y M S L G S L R D Q
V I Y P D S V D D M	H D K G Y T D Q D L	E R I L H N V H L Y	H I V Q R E G G W D
A V M D W K D V L S	G G E K Q R M G M A	R M F Y H K P K Y A	L L D E C T S A V S
I D V E G K I F Q A	A K G A G I S L L S	I T H R P S L W K Y	H T H L L Q F D G E
G G W R F E Q L D T	A I R L T L S E E K	Q K L E S Q L A G I	P K M Q Q R L N E L
C K I L G E D S V L	K T I K N E D E T S		

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Endotoxin Level

<1 EU/µg, determined by LAL method.

Reconstitution

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.

Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is

recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

As an ATP-dependent transporter belonging to the ATP-binding cassette (ABC) family, ABCD2 protein is integral to the transport of very long chain fatty acid (VLCFA)-CoA from the cytosol to the peroxisome lumen. Recent studies suggest that, akin to ABCD1, ABCD2 exhibits fatty acyl-CoA thioesterase (ACOT) and ATPase activities. According to this model, VLCFA-CoA is transported in an ATP-dependent manner into peroxisomes following the hydrolysis of VLCFA-CoA, mediated by the ACOT activity of ABCD2 (Probable). The substrate specificity of ABCD2 overlaps with ABCD1, particularly toward saturated fatty acids (FA) and monounsaturated FA (MUFA), but it demonstrates a distinct preference for shorter VLCFA (C22:0) and polyunsaturated fatty acids (PUFA) such as C22:6-CoA and C24:6-CoA in vitro. This suggests a potential role for ABCD2 in the regulation of very long chain fatty acids (VLCFAs) and energy metabolism, particularly in the degradation and biosynthesis of fatty acids through beta-oxidation.

Caution: Product has not been fully validated for medical applications. For research use only.

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