10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ABCD1 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP10454c

Specification

ABCD1 Antibody (Center) Blocking Peptide - Product Information

Primary Accession	P33897
Other Accession	NP_000024.2

ABCD1 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 215

Other Names
ATP-binding cassette sub-family D member 1, Adrenoleukodystrophy protein, ALDP, ABCD1, ALD

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ABCD1 Antibody (Center) Blocking Peptide - Protein Information

Name ABCD1 (HGNC:61)

Synonyms ALD

Function
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 (PubMed:11248239, PubMed:15682271, PubMed:16946495, PubMed:18757502, PubMed:21145416, PubMed:23671276, PubMed:29397936, PubMed:33500543). 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 (PubMed:33500543, PubMed:29397936). 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 (PubMed:23671276, PubMed:21145416). 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 (By similarity).

Cellular Location
Peroxisome membrane; Multi-pass membrane protein. Mitochondrion membrane; Multi-pass membrane protein. Lysosome membrane; Multi-pass membrane protein Endoplasmic reticulum membrane; Multi- pass membrane protein

ABCD1 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

ABCD1 Antibody (Center) Blocking Peptide - Images

ABCD1 Antibody (Center) Blocking Peptide - Background

ABCD1 is a member of thesuperfamily of ATP-binding cassette (ABC) transporters. ABCproteins transport various molecules across extra- andintra-cellular membranes. ABC genes are divided into seven distinctsubfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). Thisprotein is a member of the ALD subfamily, which is involved inperoxisomal import of fatty acids and/or fatty acyl-CoAs in theorganelle. All known peroxisomal ABC transporters are halftransporters which require a partner half transporter molecule toform a functional homodimeric or heterodimeric transporter. Thisperoxisomal membrane protein is likely involved in the peroxisomaltransport or catabolism of very long chain fatty acids. Defects inthis gene have been identified as the underlying cause ofadrenoleukodystrophy, an X-chromosome recessively inheriteddemyelinating disorder of the nervous system.

ABCD1 Antibody (Center) Blocking Peptide - References

Matsukawa, T., et al. Neurogenetics (2010) In press :Xie, H.H., et al. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 27(2):144-148(2010)Li, J.Y., et al. J. Neurol. Sci. 290 (1-2), 163-165 (2010) :Hour, T.C., et al. Int. J. Biol. Markers 24(3):171-178(2009)Shukla, P., et al. J. Child Neurol. 24(7):857-860(2009)