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KD-Validated Anti-ABCD1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1172

Product Information

Application	WB
Primary Accession	P33897
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB3125
Calculated MW	82937
Gene Name	ABCD1
Aliases	ABCD1; ATP Binding Cassette Subfamily D Member 1; ALDP; AMN; ALD; ATP-Binding Cassette, Sub-Family D (ALD), Member 1; ATP-Binding Cassette Sub-Family D Member 1; Adrenoleukodystrophy Protein; Adrenoleukodystrophy; ADRENOLEUKODYSTROPHY; EC 3.1.2.-; EC 7.6.2.-; ABC42
Immunogen	A synthesized peptide derived from human ABCD1 / ALD

Additional Information

Gene ID	215
Other Names	ATP-binding cassette sub-family D member 1 {ECO:0000312|HGNC:HGNC:61}, 3.1.2.-, 7.6.2.-, Adrenoleukodystrophy protein, ALDP, ABCD1 (HGNC:61), ALD

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 also has 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:29397936, PubMed:33500543). 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:21145416, PubMed:23671276). 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. Also controls 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

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