SANTA CRUZ BIOTECHNOLOGY, INC.

ABCD4 (E-19): sc-31878

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The Power to Question

BACKGROUND

The peroxisomal membrane contains several ATP-binding cassette (ABC) transporters, ABCD1-4 that are known to be present in the human peroxisome membrane. All four proteins are ABC half-transporters, which dimerize to form an active transporter. A mutation in the ABCD1 gene causes X-linked adrenoleukodystrophy (X-ALD), a peroxisomal disorder which affects lipid storage. ABCD2 in mouse is expressed at high levels in the brain and adrenal organs, which are adversely affected in X-ALD. The peroxisomal membrane comprises two quantitatively major proteins, PMP22 and ABCD3. ABCD3 is associated with irregularly shaped vesicles which may be defective peroxisomes or peroxisome precursors. ABCD1 localizes to peroxisomes. ABCB7 is a half-transporter involved in the transport of heme from the mitochondria to the cytosol.

REFERENCES

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2. Lombard-Platet, G., et al. 1996. A close relative of the adrenoleukodystrophy (ALD) gene codes for a peroxisomal protein with a specific expression pattern. Proc. Natl. Acad. Sci. USA 93: 1265-1269.
3. Shani, N., et al. 1997. Identification of a fourth half ABC transporter in the human peroxisomal membrane. Hum. Mol. Genet. 6: 1925-1931.
4. Moser, H.W. 1997. Adrenoleukodystrophy: phenotype, genetics, pathogenesis and therapy. Brain 120: 1485-1508.
5. Savary, S., et al. 1997. Chromosomal localization of the adrenoleukodystrophy-related gene in man and mice. Eur. J. Hum. Genet. 5: 99-101.
6. Holzinger, A., et al. 1998. Genomic organization and chromosomal localization of the human peroxisomal membrane protein-1-like protein (PXMP1-L) gene encoding a peroxisomal ABC transporter. FEBS Lett. 426: 238-242.
7. Shimada, Y., et al. 1998. Cloning and chromosomal mapping of a novel ABC transporter gene (hABC7), a candidate for X-linked sideroblastic anemia with spinocerebellar ataxia. J. Hum. Genet. 43: 115-122.
8. LocusLink Report (LocusID:300100). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: ABCD4 (human) mapping to 14q24.3; Abcd4 (mouse) mapping to 12 D1.

SOURCE

ABCD4 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ABCD4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31878 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABCD4 (E-19) is recommended for detection of ABCD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ABCD4 (E-19) is also recommended for detection of ABCD4 in additional species, including equine, canine, bovine, porcine and avian.

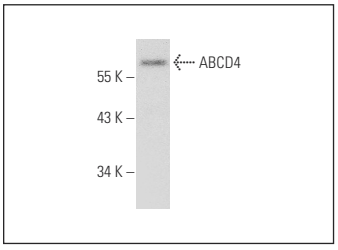
Suitable for use as control antibody for ABCD4 siRNA (h): sc-41149, ABCD4 siRNA (m): sc-41150, ABCD4 shRNA Plasmid (h): sc-41149-SH, ABCD4 shRNA Plasmid (m): sc-41150-SH, ABCD4 shRNA (h) Lentiviral Particles: sc-41149-V and ABCD4 shRNA (m) Lentiviral Particles: sc-41150-V.

Positive Controls: HeLa whole cell lysate: sc-2200, U-698-M whole cell lysate: sc-364799 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ABCD4 (E-19): sc-31878. Western blot analysis of ABCD4 expression in U-698-M whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.