

ABCD2 (C-20): sc-21381

BACKGROUND

The peroxisomal membrane contains several ATP-binding cassette (ABC) transporters, designed 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

1. Gartner, J., Kearns, W., Pearson, P. and Valle, D. 1992. Characterization and localization of the human 70 kDa peroxisomal membrane protein (PMP70) gene. *Am. J. Hum. Genet.* 51: 168.
2. Lombard-Platet, G., Savary, S., Sarde, C.O., Mandel, J.L. and Chimini, G. 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., Jimenez-Sanchez, G., Steel, G., Dean, M. and Valle, D. 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., Troffer-Charlier, N., Gyapay, G., Mattei, M.G. and Chimini, G. 1997. Chromosomal localization of the adrenoleukodystrophy-related gene in man and mice. *Eur. J. Hum. Genet.* 5: 99-101.
6. Holzinger, A., Roscher, A.A., Landgraf, P., Lichtner, P. and Kammerer, S. 1998. Genomic organization and chromosomal localization of the human peroxisomal membrane protein-1-like protein (PMP1-L) gene encoding a peroxisomal ABC transporter. *FEBS Lett.* 426: 238-242.

CHROMOSOMAL LOCATION

Genetic locus: ABCD2 (human) mapping to 12q12; Abcd2 (mouse) mapping to 15 E3.

SOURCE

ABCD2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ABCD2 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-21381 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABCD2 (C-20) is recommended for detection of ABCD2 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).

ABCD2 (C-20) is also recommended for detection of ABCD2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ABCD2 siRNA (h): sc-41145, ABCD2 siRNA (m): sc-41146, ABCD2 shRNA Plasmid (h): sc-41145-SH, ABCD2 shRNA Plasmid (m): sc-41146-SH, ABCD2 shRNA (h) Lentiviral Particles: sc-41145-V and ABCD2 shRNA (m) Lentiviral Particles: sc-41146-V.

Molecular Weight (predicted) of ABCD2: 83 kDa.

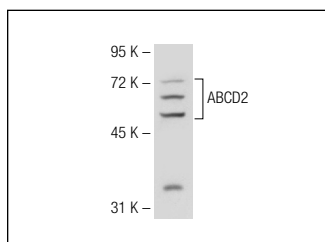
Molecular Weight (observed) of ABCD2: 74 kDa.

Positive Controls: mouse brain extract: sc-2253.

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



ABCD2 (C-20): sc-21381. Western blot analysis of ABCD2 expression in mouse brain tissue extract.

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.