

## ABCD3 (F-1): sc-514728



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.

## CHROMOSOMAL LOCATION

Genetic locus: ABCD3 (human) mapping to 1p21.3.

## SOURCE

ABCD3 (F-1) is a mouse monoclonal antibody raised against amino acids 280-475 of ABCD3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ABCD3 (F-1) is available conjugated to agarose (sc-514728 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514728 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514728 PE), fluorescein (sc-514728 FITC), Alexa Fluor® 488 (sc-514728 AF488), Alexa Fluor® 546 (sc-514728 AF546), Alexa Fluor® 594 (sc-514728 AF594) or Alexa Fluor® 647 (sc-514728 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514728 AF680) or Alexa Fluor® 790 (sc-514728 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

ABCD3 (F-1) is recommended for detection of ABCD3 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ABCD3 siRNA (h): sc-41147, ABCD3 shRNA Plasmid (h): sc-41147-SH and ABCD3 shRNA (h) Lentiviral Particles: sc-41147-V.

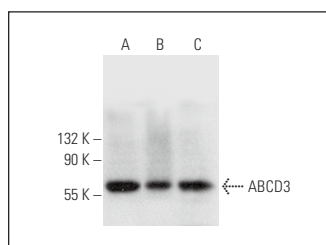
Molecular Weight of ABCD3: 75 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SH-SY5Y cell lysate: sc-3812 or Caco-2 cell lysate: sc-2262.

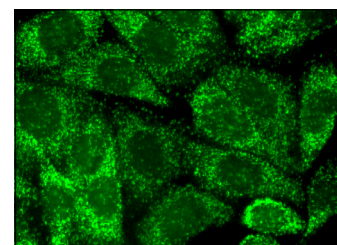
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



ABCD3 (F-1): sc-514728. Western blot analysis of ABCD3 expression in HeLa (A), SH-SY5Y (B) and Caco-2 (C) whole cell lysates.



ABCD3 (F-1): sc-514728. Immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic vesicles localization.

## SELECT PRODUCT CITATIONS

- Wang, W., et al. 2017. TRIM37, a novel E3 ligase for PEX5-mediated peroxisomal matrix protein import. *J. Cell Biol.* 216: 2843-2858.
- Krüger, C., et al. 2021. AQP8 is a crucial H<sub>2</sub>O<sub>2</sub> transporter in Insulin-producing RINm5F cells. *Redox Biol.* 43: 101962.
- Kumar, R., et al. 2022. A cell-based GEF assay reveals new substrates for DENN domains and a role for DENND2B in primary ciliogenesis. *Sci. Adv.* 8: eabk3088.
- Lin, X., et al. 2022. ISOC1 modulates inflammatory responses in macrophages through the AKT1/PEX11B/peroxisome pathway. *Molecules* 27: 5896.
- Lee, H.J., et al. 2022. Nalfurafine hydrochloride, a κ-opioid receptor agonist, induces melanophagy via PKA inhibition in B16F1 cells. *Cells* 12: 146.
- Kim, Y.H., et al. 2024. Inhibition of VHL by VH298 accelerates pexophagy by activation of HIF-1α in HeLa cells. *Molecules* 29: 482.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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