

ABCG2 (5D3): sc-18841

BACKGROUND

ATP-binding cassette (ABC) transporters are an evolutionarily conserved family of proteins that catalyze the transport of molecules across extracellular and intracellular membranes through the energy of ATP hydrolysis. The ABC half-transporter, ABCG2, is also known as placenta-specific ABC transporter and breast cancer resistance protein (BCRP1). ABCG2 confers resistance for a variety of chemotherapeutic agents, including anthracyclines, mitoxantrone, bisantrene and topotecan. Under normal conditions, ABCG2 may serve a protective function by removing toxins from the cell, and plays an important role in regulating stem cell differentiation. ABCG2 is responsible for the side population (SP) phenotype and is widely expressed in a large variety of stem cells, making it an important stem cell marker. ABCG2 may have N-linked glycosylation and may dimerize *in vivo*. ABCG2 is abundantly expressed in placenta, liver, intestine and stem cells.

CHROMOSOMAL LOCATION

Genetic locus: ABCG2 (human) mapping to 4q22.1.

SOURCE

ABCG2 (5D3) is a mouse monoclonal antibody raised against 3T3 cells transfected with recombinant ABCG2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ABCG2 (5D3) is available conjugated to agarose (sc-18841 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-18841 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18841 PE), fluorescein (sc-18841 FITC), Alexa Fluor® 488 (sc-18841 AF488), Alexa Fluor® 546 (sc-18841 AF546), Alexa Fluor® 594 (sc-18841 AF594) or Alexa Fluor® 647 (sc-18841 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18841 AF680) or Alexa Fluor® 790 (sc-18841 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ABCG2 (5D3) is recommended for detection of ABCG2 of human origin by 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for ABCG2 siRNA (h): sc-41151, ABCG2 shRNA Plasmid (h): sc-41151-SH and ABCG2 shRNA (h) Lentiviral Particles: sc-41151-V.

Molecular Weight of ABCG2: 72 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, JAR cell lysate: sc-2276 or HL-60 whole cell lysate: sc-2209.

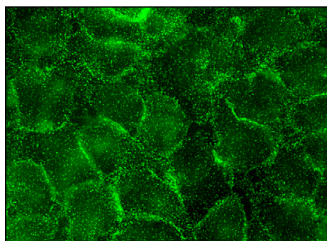
RESEARCH USE

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

STORAGE

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

DATA



ABCG2 (5D3): sc-18841. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

- Zhang, W., et al. 2003. The expression and functional characterization of ABCG2 in the brain endothelial cells and vessels. *FASEB J.* 17: 2085-2087.
- Xiao, Y., et al. 2008. The lymphovascular embolus of inflammatory breast cancer expresses a stem cell-like phenotype. *Am. J. Pathol.* 173: 561-574.
- Xiong, H., et al. 2009. ABCG2 is upregulated in Alzheimer's brain with cerebral amyloid angiopathy and may act as a gatekeeper at the blood-brain barrier for Aβ₁₋₄₀ peptides. *J. Neurosci.* 29: 5463-5475.
- Zhang, X. and Roth, M.J. 2010. Antibody-directed lentiviral gene transduction in early immature hematopoietic progenitor cells. *J. Gene Med.* 12: 945-955.
- Lee, C.G., et al. 2012. A rare fraction of drug-resistant follicular lymphoma cancer stem cells interacts with follicular dendritic cells to maintain tumorigenic potential. *Br. J. Haematol.* 158: 79-90.
- Liu, L., et al. 2013. Reversal of multidrug resistance by the anti-malaria drug artesunate in the esophageal cancer Eca109/ABCG2 cell line. *Oncol. Lett.* 6: 1475-1481.
- Liang, L., et al. 2014. ABCG2 gene amplification and expression in esophageal cancer cells with acquired adriamycin resistance. *Mol. Med. Rep.* 9: 1299-1304.
- Yi, X.J., et al. 2015. Aberrant Wnt/β-catenin signaling and elevated expression of stem cell proteins are associated with osteosarcoma side population cells of high tumorigenicity. *Mol. Med. Rep.* 12: 5042-5048.
- Chen, L., et al. 2017. ABCG2 downregulation in glioma stem cells enhances the therapeutic efficacy of demethoxycurcumin. *Oncotarget* 8: 43237-43247.

PROTOCOLS

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