

ABCG2 (6D170): sc-69989

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.

REFERENCES

- Spangrude, G.J., et al. 1990. Resting and activated subsets of mouse multipotent hematopoietic stem cells. *Proc. Natl. Acad. Sci. USA* 87: 7433-7437.
- Goodell, M.A., et al. 1997. Dye efflux studies suggest that hematopoietic stem cells expressing low or undetectable levels of CD34 antigen exist in multiple species. *Nat. Med.* 3: 1337-1345.

CHROMOSOMAL LOCATION

Genetic locus: ABCG2 (human) mapping to 4q22.1; Abcg2 (mouse) mapping to 6 B3.

SOURCE

ABCG2 (6D170) is a mouse monoclonal antibody raised against amino acids 221-394 of ABCG2 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% stabilizer protein.

APPLICATIONS

ABCG2 (6D170) is recommended for detection of ABCG2 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for ABCG2 siRNA (h): sc-41151, ABCG2 siRNA (m): sc-37054, ABCG2 shRNA Plasmid (h): sc-41151-SH, ABCG2 shRNA Plasmid (m): sc-37054-SH, ABCG2 shRNA (h) Lentiviral Particles: sc-41151-V and ABCG2 shRNA (m) Lentiviral Particles: sc-37054-V.

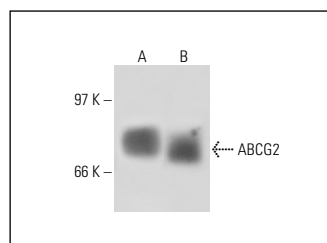
Molecular Weight of ABCG2: 72 kDa.

Positive Controls: ABCG2 (h2): 293T Lysate: sc-172393, JAR cell lysate: sc-2276 or MCF7 whole cell lysate: sc-2206.

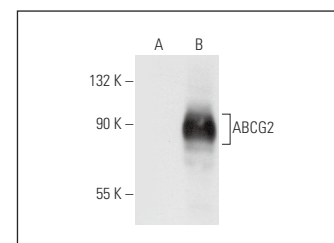
STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



ABCG2 (6D170): sc-69989. Western blot analysis of ABCG2 expression in JAR (A) and MCF7 (B) whole cell lysates.



ABCG2 (6D170): sc-69989. Western blot analysis of ABCG2 expression in non-transfected: sc-117752 (A) and human ABCG2 transfected: sc-172393 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Ramirez, C.J., et al. 2011. Molecular genetic basis for fluoroquinolone-induced retinal degeneration in cats. *Pharmacogenet. Genomics* 21: 66-75.
- Liu, S., et al. 2012. miR-200c inhibits melanoma progression and drug resistance through down-regulation of BMI-1. *Am. J. Pathol.* 181: 1823-1835.
- Mealey, K.L., et al. 2014. Tyrosine kinase inhibitors enhance ciprofloxacin-induced phototoxicity by inhibiting ABCG2. *Oncology* 87: 364-370.
- Lewis, R.S., et al. 2017. Comparison of chemotherapeutic drug resistance in cells transfected with canine ABCG2 or feline ABCG2. *Vet. Comp. Oncol.* 15: 411-420.
- Shao, Y., et al. 2018. EGFR-TKI resistance and MAP17 are associated with cancer stem cell like properties. *Oncol. Lett.* 15: 6655-6665.
- Alnaqbi, N., et al. 2023. Molecular heterogeneity of the brain endothelium. *Curr. Issues Mol. Biol.* 45: 3462-3478.

RESEARCH USE

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

PROTOCOLS

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



See **ABCG2 (B-1): sc-377176** for ABCG2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.