SANTA CRUZ BIOTECHNOLOGY, INC.

ABCG2 (6D171): sc-69988

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; Abcg2 (mouse) mapping to 6 B3.

SOURCE

ABCG2 (6D171) is a mouse monoclonal antibody raised against amino acids 271-396 of ABCG2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with 0.02% sodium azide and 0.1% stabilizer protein.

APPLICATIONS

ABCG2 (6D171) 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200); non cross-reactive with the human MDR1, MRP1 and MRP2 gene products.

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

RESEARCH USE

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

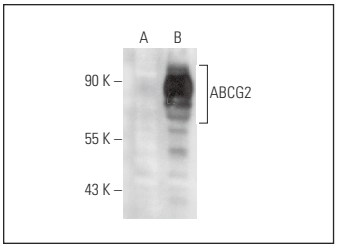
PROTOCOLS

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

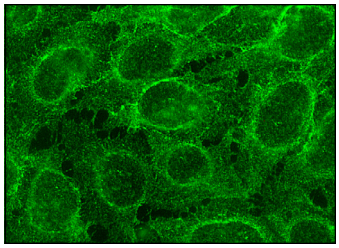
STORAGE

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 (6D171): sc-69988. Western blot analysis of ABCG2 expression in non-transfected: sc-117752 (**A**) and human ABCG2 transfected: sc-172393 (**B**) 293T whole cell lysates.



ABCG2 (6D171): sc-69988. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Zajchowski, D.A., et al. 2012. Treatment-related protein biomarker expression differs between primary and recurrent ovarian carcinomas. Mol. Cancer Ther. 11: 492-502.
2. Napoletano, C., et al. 2016. Immunological and clinical impact of cancer stem cells in vulvar cancer: role of CD133/CD24/ABCG2-expressing cells. Anticancer Res. 36: 5109-5116.
3. Somasundaram, V., et al. 2016. Selective mode of action of plumbagin through BRCA1 deficient breast cancer stem cells. BMC Cancer 16: 336.
4. Cederbye, C.N., et al. 2016. Antibody validation and scoring guidelines for ABCG2 immunohistochemical staining in formalin-fixed paraffin-embedded colon cancer tissue. Sci. Rep. 6: 26997.
5. Biteghe, F.N., et al. 2017. A combination of photodynamic therapy and chemotherapy displays a differential cytotoxic effect on human metastatic melanoma cells. J. Photochem. Photobiol. B 166: 18-27.
6. Guan, H.Y., et al. 2017. Shengjiang Xiexin decoction alters pharmacokinetics of Irinotecan by regulating metabolic enzymes and transporters: a multi-target therapy for alleviating the gastrointestinal toxicity. Front. Pharmacol. 8: 769.
7. Sengodan, S.K., et al. 2019. β-hCG induced mutant BRCA1 ignites drug resistance in susceptible breast tissue. Carcinogenesis 40: 1415-1426.

CONJUGATES

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.