SANTA CRUZ BIOTECHNOLOGY, INC.

ABCG2 (BXP-21): sc-58222

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (BXP-21) 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 (BXP-21) 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 [10-20 µl 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, HL-60/MX-1 whole cell lysate or JAR cell lysate: sc-2276.

RESEARCH USE

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

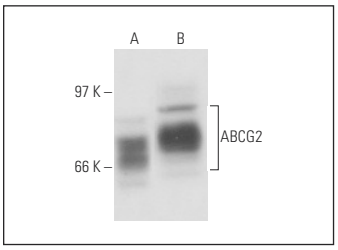
PROTOCOLS

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

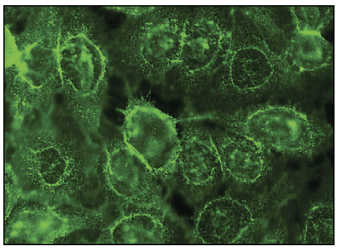
STORAGE

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

DATA



ABCG2 (BXP-21): sc-58222. Western blot analysis of ABCG2 expression in HL-60/MX-1 (**A**) and JAR (**B**) whole cell lysates.



ABCG2 (BXP-21): sc-58222. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Nakagawa, H., et al. 2008. Ubiquitin-mediated proteasomal degradation of non-synonymous SNP variants of human ABC transporter ABCG2. Biochem. J. 411: 623-631.
2. Bayyoud, T., et al. 2014. Cytotoxic properties of sunitinib and sorafenib on human corneal epithelial cells. Curr. Eye Res. 39: 149-154.
3. Ogasawara, K., et al. 2015. A new ABCG2 null allele with a 27-kb deletion including the promoter region causing the Jr(a-) phenotype. Transfusion 55: 1467-1471.
4. Jendželovský, R., et al. 2016. Proadifen sensitizes resistant ovarian adenocarcinoma cells to cisplatin. Toxicol. Lett. 243: 56-66.
5. Li, J., et al. 2017. Quizartinib (AC220) reverses ABCG2-mediated multidrug resistance: *In vitro* and *in vivo* studies. Oncotarget 8: 93785-93799.
6. Rigalli, J.P., et al. 2018. Human papilloma virus (HPV) 18 proteins E6 and E7 up-regulate ABC transporters in oropharyngeal carcinoma. Involvement of the nonsense-mediated decay (NMD) pathway. Cancer Lett. 428: 69-76.
7. Jendželovský, R., et al. 2019. Breast cancer resistance protein is the enemy of hypericin accumulation and toxicity of hypericin-mediated photodynamic therapy. Biomed. Pharmacother. 109: 2173-2181.
8. Baltes, F., et al. 2020. β1-Integrin binding to collagen type 1 transmits breast cancer cells into chemoresistance by activating ABC efflux transporters. Biochim. Biophys. Acta Mol. Cell Res. 1867: 118663.
9. Prasad, P., et al. 2021. Glutamine deficiency promotes stemness and chemoresistance in tumor cells through DRP1-induced mitochondrial fragmentation. Cell. Mol. Life Sci. 78: 4821-4845.

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.