SANTA CRUZ BIOTECHNOLOGY, INC.

ABCG2 (B-1): sc-377176

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.

SOURCE

ABCG2 (B-1) is a mouse monoclonal antibody raised against amino acids 301-370 mapping within an internal region of ABCG2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ABCG2 (B-1) is available conjugated to agarose (sc-377176 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377176 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377176 PE), fluorescein (sc-377176 FITC), Alexa Fluor® 488 (sc-377176 AF488), Alexa Fluor® 546 (sc-377176 AF546), Alexa Fluor® 594 (sc-377176 AF594) or Alexa Fluor® 647 (sc-377176 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377176 AF680) or Alexa Fluor® 790 (sc-377176 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ABCG2 (B-1) is recommended for detection of ABCG2 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), immunohistochemistry (including paraffin-embedded sections) (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 ABCG2 siRNA (h): sc-41151, ABCG2 shRNA Plasmid (h): sc-41151-SH and ABCG2 shRNA (h) Lentiviral Particles: sc-41151-V.

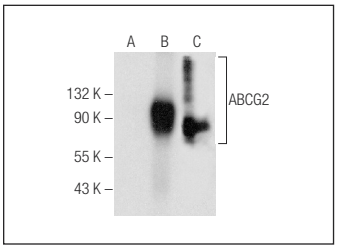
Molecular Weight of ABCG2: 72 kDa.

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

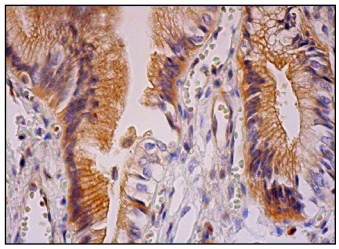
STORAGE

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

DATA



ABCG2 (B-1): sc-377176. Western blot analysis of ABCG2 expression in non-transfected 293T: sc-117752 (**A**), human ABCG2 transfected 293T: sc-172393 (**B**) and HL-60/MX1 (**C**) whole cell lysates.



ABCG2 (B-1): sc-377176. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wang, W., et al. 2013. Vitamin D analog EB1089 induces apoptosis in a subpopulation of SGC-7901 gastric cancer cells through a mitochondrial-dependent apoptotic pathway. Nutr. Cancer 65: 1067-1075.
2. Chen, Y.L., et al. 2016. ABCG2 overexpression confers poor outcomes in hepatocellular carcinoma of elderly patients. Anticancer Res. 36: 2983-2988.
3. Roh, Y.J., et al. 2017. Photodynamic therapy using photosensitizer-encapsulated polymeric nanoparticle to overcome ATP-binding cassette transporter subfamily G_2 function in pancreatic cancer. Mol. Cancer Ther. 16: 1487-1496.
4. Ge, C., et al. 2018. PCI29732, a Bruton's tyrosine kinase inhibitor, enhanced the efficacy of conventional chemotherapeutic agents in ABCG2-overexpressing cancer cells. Cell. Physiol. Biochem. 48: 2302-2317.
5. Xu, K., et al. 2019. Nobiletin exhibits potent inhibition on tumor necrosis factor α-induced calcification of human aortic valve interstitial cells via targeting ABCG2 and AKR1B1. Phytother. Res. 33: 1717-1725.
6. Patil, S., et al. 2019. Culture and characterization of human dental pulp-derived stem cells as limbal stem cells for corneal damage repair. Mol. Med. Rep. 20: 4688-4694.
7. Kammergruber, E., et al. 2019. Morphological and immunohistochemical characteristics of the equine corneal epithelium. Vet. Ophthalmol. 22: 778-790.
8. Piffaretti, D., et al. 2019. Protoporphyrin IX tracer fluorescence modulation for improved brain tumor cell lines visualization. J. Photochem. Photobiol. B, Biol. 201: 111640.
9. Ohmura, H., et al. 2020. Methylation of drug resistance-related genes in chemotherapy-sensitive Epstein-Barr virus-associated gastric cancer. FEBS Open Bio 10: 147-157.

RESEARCH USE

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