

ABCG2 (BXP-53): sc-58224

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-53) is a rat 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 (BXP-53) 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 flow cytometry (10-20 µl 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 (h3): 293T Lysate: sc-172804, JAR cell lysate: sc-2276 or MCF7 whole cell lysate: sc-2206.

STORAGE

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

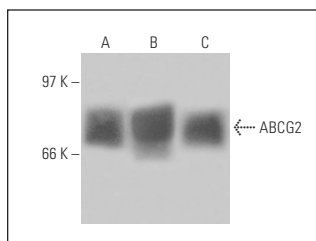
PROTOCOLS

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

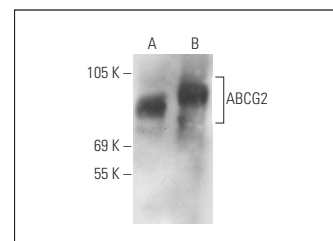
RESEARCH USE

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

DATA



ABCG2 (BXP-53): sc-58224. Western blot analysis of ABCG2 expression in HL-60/MX-1 (A), JAR (B) and MCF7 (C) whole cell lysates.



ABCG2 (BXP-53): sc-58224. Western blot analysis of ABCG2 expression in non-transfected: sc-117752 (A) and human ABCG2 transfected: sc-172804 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Solazzo, M., et al. 2009. Mitochondrial expression and functional activity of breast cancer resistance protein in different multiple drug-resistant cell lines. *Cancer Res.* 69: 7235-7242.
- Procházková, J., et al. 2011. ABC transporters affect the detection of intracellular oxidants by fluorescent probes. *Free Radic. Res.* 45: 779-787.
- Jablonski, M.R., et al. 2012. Selective increase of two ABC drug efflux transporters at the blood-spinal cord barrier suggests induced pharmacoresistance in ALS. *Neurobiol. Dis.* 47: 194-200.
- Liu, W.H., et al. 2013. ABCG2 protects kidney side population cells from hypoxia/reoxygenation injury through activation of the MEK/ERK pathway. *Cell Transplant.* 22: 1859-1868.
- Guo, S., et al. 2014. Higher level of plasma bioactive molecule sphingosine 1-phosphate in women is associated with estrogen. *Biochim. Biophys. Acta* 1841: 836-846.
- Jia, M., et al. 2016. Silencing of ABCG2 by microRNA-3163 inhibits multidrug resistance in retinoblastoma cancer stem cells. *J. Korean Med. Sci.* 31: 836-842.
- Postiglione, I., et al. 2016. Photodynamic therapy with 5-aminolaevulinic acid and DNA damage: unravelling roles of p53 and ABCG2. *Cell Prolif.* 49: 523-538.
- Halwachs, S., et al. 2016. The ABCG2 efflux transporter from rabbit placenta: cloning and functional characterization. *Placenta* 38: 8-15.
- Bhagwandin, V.J., et al. 2016. The metastatic potential and chemoresistance of human pancreatic cancer stem cells. *PLoS ONE* 11: e0148807.



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.