

# ABCG2 (h2): 293T Lysate: sc-172393

## 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

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- 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.
- Hulspas, R., et al. 2000. Characterization of neurosphere cell phenotypes by flow cytometry. *Cytometry* 40: 245-250.
- Bunting, K.D., et al. 2002. ABC transporters as phenotypic markers and functional regulators of stem cells. *Stem Cells* 20: 11-20.
- Nakagawa, R., et al. 2002. ABCG2 confers resistance to indolocarbazole compounds by ATP-dependent transport. *Biochem. Biophys. Res. Commun.* 299: 669-675.
- Ozvegy, C., et al. 2002. Characterization of drug transport, ATP hydrolysis, and nucleotide trapping by the human ABCG2 multidrug transporter. Modulation of substrate specificity by a point mutation. *J. Biol. Chem.* 277: 47980-47990.
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- Zhou, S., et al. 2002. Bcrp1 gene expression is required for normal numbers of side population stem cells in mice, and confers relative protection to mitoxantrone in hematopoietic cells *in vivo*. *Proc. Natl. Acad. Sci. USA* 99: 12339-12344.
- Haraguchi, N., et al. 2005. Characterization of a side population of cancer cells from human gastrointestinal system. *Stem Cells* 24: 506-513.

## CHROMOSOMAL LOCATION

Genetic locus: ABCG2 (human) mapping to 4q22.1.

## PRODUCT

ABCG2 (h2): 293T Lysate represents a lysate of human ABCG2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

ABCG2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive ABCG2 antibodies. Recommended use: 10-20 µl per lane.

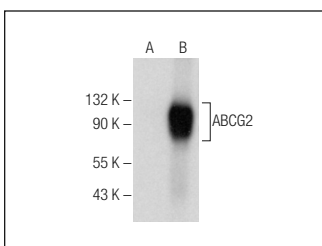
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ABCG2 (B-1): sc-377176 is recommended as a positive control antibody for Western Blot analysis of enhanced human ABCG2 expression in ABCG2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

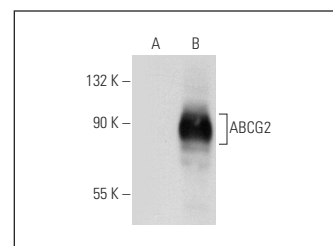
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



ABCG2 (B-1): sc-377176. Western blot analysis of ABCG2 expression in non-transfected: sc-117752 (A) and human ABCG2 transfected: sc-172393 (B) 293T 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.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.