SANTA CRUZ BIOTECHNOLOGY, INC.

ABCG2 (BXP-34): sc-58223

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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.

REFERENCES

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3. Hulspas, R., et al. 2000. Characterization of neurosphere cell phenotypes by flow cytometry. Cytometry 40: 245-250.
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6. 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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8. 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.
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CHROMOSOMAL LOCATION

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

SOURCE

ABCG2 (BXP-34) is a mouse monoclonal antibody raised against ABCG2 overexpressing cell line MCF-7 MR.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgG_1 with < 0.1% sodium azide and 0.7% BSA.

APPLICATIONS

ABCG2 (BXP-34) is recommended for detection of ABCG2 of human origin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200); non cross-reactive with the human MDR1, MRP1, MRP2 or MRP5 gene products.

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: HL-60 whole cell lysate: sc-2209, JAR cell lysate: sc-2276 or HL-60/MX-1 cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

RESEARCH USE

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

PROTOCOLS

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