SANTA CRUZ BIOTECHNOLOGY, INC.

ABCG4 (P-13): sc-34874

BACKGROUND

ATP-binding cassette (ABC) transporters are an evolutionarily conserved family of proteins that catalyze the transport of molecules across extra- and intracellular membranes through the energy of ATP hydrolysis. The ABC gene family comprises seven subfamilies: ABC1, MDR/TAP, MRP, ALD, OABP, GCN20 and White. ABC proteins are either full molecules, with two nucleotide-binding folds (NBFs) and two sets of transmembrane domains (TMs), or half molecules, with one NBF and one set of TM domains. ABCG4, as well as all other half transporters, forms either a hetero- or homodimer in order to mediate transport function. ABCG4, a 646 amino acid protein, is important in macrophage lipid homeostasis, with the highest expression detected in brain, thymus, spleen and heart. The gene encoding for the ABCG4 protein maps to chromosome 11q23.3, a locus which includes several other genes involved in cholesterol and lipid metabolism. This locus also includes the locus for primary hypoalphalipoproteinemia.

REFERENCES

1. Annilo, T., et al. 2001. Human and mouse orthologs of a new ATP-binding cassette gene, ABCG4. Cytogenet. Cell Genet. 94: 196-201.
2. Engel, T., et al. 2001. The human ABCG4 gene is regulated by oxysterols and retinoids in monocyte-derived macrophages. Biochem. Biophys. Res. Commun. 288: 483-488.
3. Yoshikawa, M., et al. 2002. Molecular and cytogenetic characterization of the mouse ATP-binding cassette transporter Abcg4. Gene 293: 67-75.
4. Nakagawa, R., et al. 2002. ABCG2 confers resistance to indolocarbazole compounds by ATP-dependent transport. Biochem. Biophys. Res. Commun. 299: 669-675.
5. 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.
6. Ejendal, K.F. and Hrycyna, C.A. 2002. Multidrug resistance and cancer: the role of the human ABC transporter ABCG2. Curr. Protein Pept. Sci. 3: 503-511.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: ABCG4 (human) mapping to 11q23.3, ABCG1 (human) mapping to 21q22.3; Abcg4 (mouse) mapping to 9 A5.2, Abcg1 (mouse) mapping to 17.

SOURCE

ABCG4 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ABCG4 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34874 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABCG4 (P-13) is recommended for detection of ABCG4 and ABCG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ABCG4 (P-13) is also recommended for detection of ABCG4 and ABCG1 in additional species, including canine and porcine.

Molecular Weight of ABCG4: 81 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.