

ABCB5 (N-13): sc-104019

BACKGROUND

ATP-binding cassette (ABC) transporters are an evolutionarily conserved family of proteins that catalyze the transport of molecules across extracellular and intracellular membranes by harnessing the energy of ATP hydrolysis. ABCB5 (ATP-binding cassette sub-family B member 5), also known as P-glycoprotein ABCB5 or ABCB5 P-gp, is an 812 amino acid multi-pass membrane protein that belongs to the superfamily of ABC transporters. Expressed ubiquitously, ABCB5 contains two ABC transporter domains and one ABC transmembrane type-1 domain and is responsible for the resistance to doxorubicin of a subset of malignant melanomas. It is suggested ABCB5 inhibits tumour growth and is thought to be a novel drug transporter and chemoresistance mediator in melanoma cells. Two isoforms of ABCB5, designated α and β , exist due to alternative splicing events.

REFERENCES

- Allikmets, R., et al. 1996. Characterization of the human ABC superfamily: isolation and mapping of 21 new genes using the expressed sequence tags database. *Hum. Mol. Genet.* 5: 1649-1655.
- Saito, S., et al. 2002. Three hundred twenty-six genetic variations in genes encoding nine members of ATP-binding cassette, subfamily B (ABCB/MDR/TAP), in the Japanese population. *J. Hum. Genet.* 47: 38-50.
- Frank, N.Y., et al. 2003. Regulation of progenitor cell fusion by ABCB5 P-glycoprotein, a novel human ATP-binding cassette transporter. *J. Biol. Chem.* 278: 47156-47165.
- Frank, N.Y., et al. 2005. ABCB5-mediated doxorubicin transport and chemoresistance in human malignant melanoma. *Cancer Res.* 65: 4320-4333.
- Chen, K.G., et al. 2005. Principal expression of two mRNA isoforms (ABCB5 α and ABCB5 β) of the ATP-binding cassette transporter gene ABCB5 in melanoma cells and melanocytes. *Pigment Cell Res.* 18: 102-112.
- Zabierowski, S.E. and Herlyn, M. 2008. Learning the ABCs of melanoma-initiating cells. *Cancer Cell* 13: 185-187.
- Hendig, D., et al. 2008. Gene expression profiling of ABC transporters in dermal fibroblasts of pseudoxanthoma elasticum patients identifies new candidates involved in PXE pathogenesis. *Lab. Invest.* 88: 1303-1315.
- Schatton, T., et al. 2008. Identification of cells initiating human melanomas. *Nature* 451: 345-349.
- La Porta, C. 2008. Cancer stem cells: lessons from melanoma. *Stem Cell Rev.* 5: 61-65.

CHROMOSOMAL LOCATION

Genetic locus: ABCB5 (human) mapping to 7p15.3.

SOURCE

ABCB5 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of ABCB5 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-104019 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABCB5 (N-13) is recommended for detection of ABCB5 of 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).

Suitable for use as control antibody for ABCB5 siRNA (h): sc-89856, ABCB5 shRNA Plasmid (h): sc-89856-SH and ABCB5 shRNA (h) Lentiviral Particles: sc-89856-V.

Molecular Weight of ABCB5: 89 kDa.

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.

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.



Try **ABCB5 (5H3C6): sc-517210**, our highly recommended monoclonal alternative to ABCB5 (N-13).