

ABCB5 (5H3C6): sc-517210

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 a 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 tumor 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 (ABCB 5 α and ABCB 5 β) of the ATP-binding cassette transporter gene ABCB 5 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.

CHROMOSOMAL LOCATION

Genetic locus: ABCB5 (human) mapping to 7p21.1.

SOURCE

ABCB5 (5H3C6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 481-674 of ABCB5 of human origin.

PRODUCT

Each vial contains 50 μ g IgG κ light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

ABCB5 (5H3C6) is recommended for detection of ABCB5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) 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.

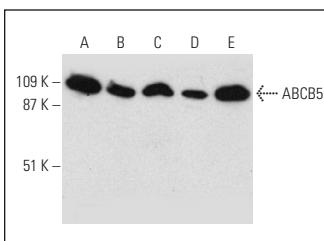
Molecular Weight of ABCB5: 89 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, K-562 whole cell lysate: sc-2203 or HL-60 whole cell lysate: sc-2209.

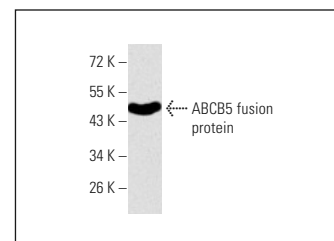
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ABCB5 (5H3C6): sc-517210. Western blot analysis of ABCB5 expression in A-431 (A), K-562 (B), HL-60 (C), Jurkat (D) and THP-1 (E) whole cell lysates.



ABCB5 (5H3C6): sc-517210. Western blot analysis of human recombinant ABCB5 (481-674) fusion protein.

SELECT PRODUCT CITATIONS

- Ge, X., et al. 2022. Chromium (VI)-induced ALDH1A1/EGF axis promotes lung cancer progression. *Clin. Transl. Med.* 12: e1136.

STORAGE

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