

# ABCB6 (61.5): sc-135726

## BACKGROUND

The ATP-binding cassette (ABC) superfamily is comprised of transmembrane proteins involved in energy-dependent transport of a variety of substrates across membranes. ABCB6 is a 842 amino acid protein belonging to the heavy metal importer subfamily of the ABC transporter family. Upregulated at the protein level by cellular porphyrins, ABCB6 binds to heme and a porphyrin and assists in their ATP-dependent uptake into the mitochondria. ABCB6 also plays an important role in heme synthesis. ABCB6 contains one ABC transmembrane type-1 domain and one ABC transporter domain and forms a homodimer in the mitochondrion outer membrane, plasma membrane and the Golgi apparatus. Widely expressed, ABCB6 has highest expression in skeletal muscle and heart. ABCB6 is present as two isoforms produced by 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.
- Furuya, K.N., et al. 1997. Identification of a new P-glycoprotein-like ATP-binding cassette transporter gene that is overexpressed during hepatocarcinogenesis. *Cancer Res.* 57: 3708-3716.
- Mitsuhashi, N., et al. 2000. MTABC3, a novel mitochondrial ATP-binding cassette protein involved in iron homeostasis. *J. Biol. Chem.* 275: 17536-17540.
- Emadi-Konjin, H.P., et al. 2002. Isolation of a genomic clone containing the promoter region of the human ATP binding cassette (ABC) transporter, ABCB6. *Biochim. Biophys. Acta* 1574: 117-130.
- Kurashima-Ito, K., et al. 2006. Heteronuclear multidimensional NMR and homology modelling studies of the C-terminal nucleotide-binding domain of the human mitochondrial ABC transporter ABCB6. *J. Biomol. NMR* 35: 53-71.
- Krishnamurthy, P.C., et al. 2006. Identification of a mammalian mitochondrial porphyrin transporter. *Nature* 443: 586-589.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 605452. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Paterson, J.K., et al. 2007. Human ABCB6 localizes to both the outer mitochondrial membrane and the plasma membrane. *Biochemistry* 46: 9443-9452.

## CHROMOSOMAL LOCATION

Genetic locus: ABCB6 (human) mapping to 2q35; Abcb6 (mouse) mapping to 1 C3.

## SOURCE

ABCB6 (61.5) is a mouse monoclonal antibody raised against recombinant ABCB6 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ABCB6 (61.5) is recommended for detection of ABCB6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ABCB6 siRNA (h): sc-94721, ABCB6 siRNA (m): sc-140757, ABCB6 shRNA Plasmid (h): sc-94721-SH, ABCB6 shRNA Plasmid (m): sc-140757-SH, ABCB6 shRNA (h) Lentiviral Particles: sc-94721-V and ABCB6 shRNA (m) Lentiviral Particles: sc-140757-V.

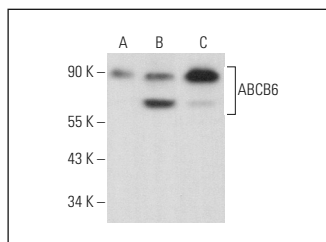
Molecular Weight of ABCB6 isoforms: 79/104 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, EOC 20 whole cell lysate: sc-364187 or Neuro-2A whole cell lysate: sc-364185.

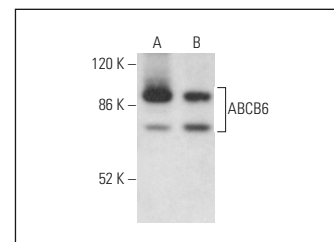
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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).

## DATA



ABCB6 (61.5): sc-135726. Western blot analysis of ABCB6 expression in Neuro-2A (A), NIH/3T3 (B) and PC-12 (C) whole cell lysates.



ABCB6 (61.5): sc-135726. Western blot analysis of ABCB6 expression in Neuro-2A (A) and EOC 20 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Bergam, P., et al. 2018. ABCB6 resides in melanosomes and regulates early steps of melanogenesis required for PMEL amyloid matrix formation. *J. Mol. Biol.* 430: 3802-3818.

## 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. Not for resale.