

ABCA3 (C-16): sc-48441

BACKGROUND

The ATP binding cassette (ABC) transporters, or traffic ATPases, constitute an expansive family of proteins accountable for the transport of a wide variety of substrates across cell membranes in both prokaryotic and eukaryotic cells and are involved in the regulation of lipid transport and membrane trafficking. ABCA3 (ATP-binding cassette 3), also designated ATP-binding cassette transporter 3 and ABC transporter 3, has typical structural features of the ABC transporter family and consists of a 1,704 amino acid polypeptide with two homologous repeats, each consisting of six putative transmembrane helices and an ATP-binding cassette motif. ABCA3, the gene encoding the human ABCA3 protein, maps near the polycystic kidney disease type 1 (PKD1) gene on chromosome 16p13.3. The ABCA3 gene is expressed at highest levels in lung. Biochemical and molecular research indicates that ABCA3 is targeted to vesicle membranes and located in the limiting membrane of lamellar bodies and may play a key role in lipid organization during the formation of lamellar bodies.

REFERENCES

- Swartz, C.M., Abrams, R. and Drews, V. 1988. Serotonin and electroconvulsive shock-induced prolactin release. *Convuls. Ther.* 4: 141-145.
- Panici, P.B., Scambia, G., Baiocchi, G., Matonti, G., Capelli, A. and Mancuso, S. 1992. Anatomical study of para-aortic and pelvic lymph nodes in gynecologic malignancies. *Obstet. Gynecol.* 79: 498-502.
- Connors, T.D., Van Raay, T.J., Petry, L.R., Klinger, K.W., Landes, G.M. and Burn, T.C. 1997. The cloning of a human ABC gene (ABC3) mapping to chromosome 16p13.3. *Genomics* 39: 231-234.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607800. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Nagata, K., Yamamoto, A., Ban, N., Tanaka, A.R., Matsuo, M., Kioka, N., Inagaki, N. and Ueda, K. 2004. Human ABCA3, a product of a responsible gene for ABCA3 for fatal surfactant deficiency in newborns, exhibits unique ATP hydrolysis activity and generates intracellular multilamellar vesicles. *Biochem. Biophys. Res. Commun.* 324: 262-268.
- Whitsett, J.A., Wert, S.E. and Xu, Y. 2005. Genetic disorders of surfactant homeostasis. *Biol. Neonate* 87: 283-287.
- van der Deen, M., de Vries, E.G., Timens, W., Scheper, R.J., Timmer-Bosscha, H. and Postma, D.S. 2005. ATP-binding cassette (ABC) transporters in normal and pathological lung. *Respir. Res.* 6: 59.
- Bullard, J.E., Wert, S.E., Whitsett, J.A., Dean, M. and Noguee, L.M. 2005. ABCA3 mutations associated with pediatric interstitial lung disease. *Am. J. Respir. Crit. Care Med.* 172: 1026-1031.

CHROMOSOMAL LOCATION

Genetic locus: ABCA3 (human) mapping to 16p13.3; Abca3 (mouse) mapping to 17 A3.3.

RESEARCH USE

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

SOURCE

ABCA3 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ABCA3 of human origin.

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-48441 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABCA3 (C-16) is recommended for detection of ABCA3 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).

ABCA3 (C-16) is also recommended for detection of ABCA3 in additional species, including equine.

Suitable for use as control antibody for ABCA3 siRNA (h): sc-60113, ABCA3 siRNA (m): sc-60114, ABCA3 shRNA Plasmid (h): sc-60113-SH, ABCA3 shRNA Plasmid (m): sc-60114-SH, ABCA3 shRNA (h) Lentiviral Particles: sc-60113-V and ABCA3 shRNA (m) Lentiviral Particles: sc-60114-V.

Molecular Weight of ABCA3: 191 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.

PROTOCOLS

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