SANTA CRUZ BIOTECHNOLOGY, INC.

ABCA2 (H-250): sc-134559

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. They also aid in the regulation of lipid transport and membrane trafficking. The gene encoding ABCA2 (ATP-binding cassette 2), also designated (ATP-binding cassette transporter 2, ABC transporter 2 and KIAA1062) is composed of 48 exons located within a genomic region of only 21 kb. Analysis of the presumed ABCA2 promoter sequence reveals possible binding sites for transcription factors that participate in the differentiation of myeloid and neural cells. Gene expression analysis in human macrophages shows that ABCA2 mRNA is procured during cholesterol import, indicating that ABCA2 is a cholesterol-responsive gene. Research suggests that ABCA2 plays a putative role in macrophage lipid metabolism and neural development.

REFERENCES

1. Kaminski, W.E., Piehler, A., Püllmann, K., Porsch-Ozcürümez, M., Duong, C., Bared, G.M., Büchler, C. and Schmitz, G. 2001. Complete coding sequence, promoter region, and genomic structure of the human ABCA2 gene and evidence for sterol-dependent regulation in macrophages. Biochem. Biophys. Res. Commun. 281: 249-258.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600047. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Boonstra, R., Timmer-Bosscha, H., van Echten-Arends, J., van der Kolk, D.M., van den Berg, A., de Jong, B., Tew, K.D., Poppema, S. and de Vries, E.G. 2004. Mitoxantrone resistance in a small cell lung cancer cell line is associated with ABCA2 upregulation. Br. J. Cancer 90: 2411-2417.
4. Chen, Z.J., Vulevic, B., Ile, K.E., Soulika, A., Davis, W., Reiner, P.B., Connop, B.P., Nathwani, P., Trojanowski, J.Q. and Tew, K.D. 2004. Association of ABCA2 expression with determinants of Alzheimer's disease. FASEB J. 18: 1129-1131.
5. Davis, W., Boyd, J.T., Ile, K.E. and Tew, K.D. 2004. Human ATP-binding cassette transporter-2 (ABCA2) positively regulates low-density lipoprotein receptor expression and negatively regulates cholesterol esterification in Chinese hamster ovary cells. Biochim. Biophys. Acta 1683: 89-100.
6. Beljanski, V., Soulika, A., Tucker, J.M., Townsend, D.M., Davis, W. and Tew, K.D. 2005. Characterization of the ATPase activity of human ATP-binding cassette transporter-2 (ABCA2). In Vivo 19: 657-660.
7. Mace, S., Cousin, E., Ricard, S., Genin, E., Spanakis, E., Lafargue-Soubigou, C., Genin, B., Fournel, R., Roche, S., Haussy, G., Massey, F., Soubigou, S., Brefort, G., Benoit, P., Brice, A., Campion, D., Hollis, M., Pradier, L., Benavides, J. and Deleuze, J.F. 2005. ABCA2 is a strong genetic risk factor for early-onset Alzheimer's disease. Neurobiol. Dis. 18: 119-125.

CHROMOSOMAL LOCATION

Genetic locus: ABCA2 (human) mapping to 9q34.3; Abca2 (mouse) mapping to 2 A3.

SOURCE

ABCA2 (H-250) is a rabbit polyclonal antibody raised against amino acids 71-320 mapping near the N-terminus of ABCA2 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.

APPLICATIONS

ABCA2 (H-250) is recommended for detection of ABCA2 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)], 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 ABCA2 siRNA (h): sc-60111, ABCA2 siRNA (m): sc-60112, ABCA2 siRNA (r): sc-156054, ABCA2 shRNA Plasmid (h): sc-60111-SH, ABCA2 shRNA Plasmid (m): sc-60112-SH, ABCA2 shRNA Plasmid (r): sc-156054-SH, ABCA2 shRNA (h) Lentiviral Particles: sc-60111-V, ABCA2 shRNA (m) Lentiviral Particles: sc-60112-V and ABCA2 shRNA (r) Lentiviral Particles: sc-156054-V.

Molecular Weight of ABCA2: 270 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.