SANTA CRUZ BIOTECHNOLOGY, INC.

Abc-me (H-120): sc-25750

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ATP-binding cassette (ABC) transporters constitute a group of highly conserved cellular transmembrane proteins, that participate in diverse physiological processes by coupling ATP hydrolysis to the transport of a variety of substrates across cell membranes. A newly identified ABC transporter, ABC-me (for ABC-mitochondrial erythroid), localizes to the mitochondrial inner membrane and is expressed at high levels in erythroid tissues of embryos and adults. ABC-me is a half-ABC transporter and comprises one ATP binding domain and three transmembrane loops, which suggests that ABC-me functions as either a homo- or heterodimer. ABC-me, a 482 amino acid protein, is strongly induced by the transcription factor GATA-1, which is essential for normal erythoropoiesis. In addition, ABC-me contains GATA-binding sites that are normally present in promoters or enhancers of genes expressed selectively in erythroid cells. ABC-me is induced during erythroid maturation in cell lines and primary hematopoietic cells, and its overexpression enhances hemoglobin synthesis in erythroleukemia cells. ABC-me may mediate critical mitochondrial transport functions related to heme biosynthesis.

REFERENCES

1. Dean, M. and Allikmets, R. 1995 Evolution of ATP-binding cassette transporter genes. Curr. Opin. Genet. Dev. 5: 779-785.
2. Allikmets, R., Gerrard, B., Glavac, D., Ranvnik-Glavac, M., Jenkins, N.A., Gilbert, D.J., Gopeland, N.G., Modi, W. and Dean, M. 1995. Characterization and mapping of three new mammalian ATP-binding transporter genes from an EST database. Mamm. Genome 6: 114-117.
3. Schmitz, G., Kaminski, W.E. and Orso, E. 2000. ABC transporters in cellular lipid trafficking. Curr. Opin. Lipidol. 11: 493-501.
4. Shirihai, O.S., Gregory, T., Yu, C., Orkin, S.H. and Weiss, M.J. 2000. ABC-me: a novel mitochondrial transporter induced by GATA-1 during erythroid differentiation. EMBO 19: 2492-2502.
5. Young, L., Leonhard, K., Tatsuta, T., Trowsdale, J. and Langer, T. 2001. Role of the ABC transporter Mdl1 in peptide export from mitochondria. Science 291: 2135-2138.

CHROMOSOMAL LOCATION

Genetic locus: ABCB10 (human) mapping to 1q42.13; Abcb10 (mouse) mapping to 8 E2.

SOURCE

Abc-me (H-120) is a rabbit polyclonal antibody raised against amino acids 401-520 of Abc-me 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.

STORAGE

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

APPLICATIONS

Abc-me (H-120) is recommended for detection of Abc-me 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).

ABC-me (H-120) is also recommended for detection of ABC-me in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ABC-me siRNA (h): sc-41155, ABC-me siRNA (m): sc-41156, ABC-me shRNA Plasmid (h): sc-41155-SH, ABC-me shRNA Plasmid (m): sc-41156-SH, ABC-me shRNA (h) Lentiviral Particles: sc-41155-V and ABC-me shRNA (m) Lentiviral Particles: sc-41156-V.

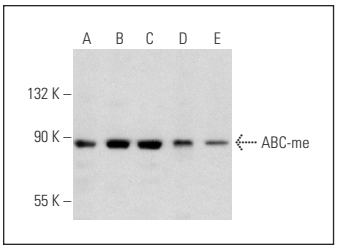
Molecular Weight of ABC-me: 77 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, CCRF-CEM cell lysate: sc-2225 or MOLT-4 cell lysate: sc-2233.

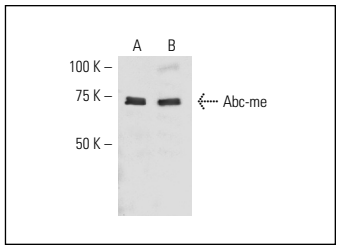
RECOMMENDED SECONDARY REAGENTS

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.

DATA



ABC-me (H-120): sc-25750. Western blot analysis of ABC-me expression in HEL 92.1.7 (**A**), K-562 (**B**), TF-1 (**C**), LADMAC (**D**) and MCP-5 (**E**) whole cell lysates.



Abc-me (H-120): sc-25750. Western blot analysis of Abc-me expression in CCRF-CEM (**A**) and MOLT-4 (**B**) whole cell lysates.

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.