

ABC-me (C-20): sc-16538

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 erythropoiesis. 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., et al. 1995. Characterization and mapping of three new mammalian ATP-binding transporter genes from an EST database. *Mamm. Genome* 6: 114-117.
3. Schmitz, G., et al. 2000. ABC transporters in cellular lipid trafficking. *Curr. Opin. Lipidol.* 11: 493-501.
4. Shirihai, O.S., et al. 2000. ABC-me: a novel mitochondrial transporter induced by GATA-1 during erythroid differentiation. *EMBO J.* 19: 2492-2502.
5. Young, L., et al. 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 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-16538 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ABC-me (C-20) 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), immunohistochemistry (including paraffin-embedded sections) (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 (C-20) 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.

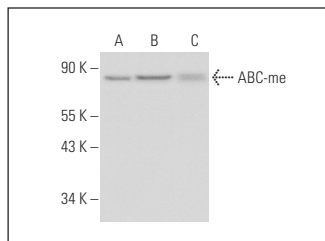
Molecular Weight of ABC-me: 77 kDa.

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

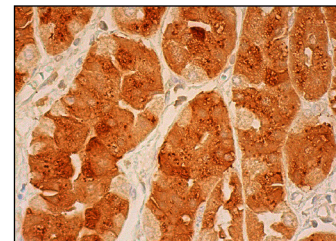
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ABC-me (C-20): sc-16538. Western blot analysis of ABC-me expression in CCRF-CEM (A), MOLT-4 (B) and TF-1 (C) whole cell lysates.



ABC-me (C-20): sc-16538. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

STORAGE

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