

MTCH1 (F-24): sc-133799

BACKGROUND

MTCH1 (mitochondrial carrier homolog 1), also known as PSAP or PIG60, is a 389 amino acid multi-pass membrane protein that localizes to the inner mitochondrial membrane and contains two solcar repeats. Expressed in a variety of tissues with highest expression in brain, MTCH1 interacts with Presenilin 1 and is thought to function as a mitochondrial transporter that may play a role in apoptosis. Multiple isoforms of MTCH1 exist due to alternative splicing events. The gene encoding MTCH1 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

- Xu, X., Shi, Y., Wu, X., Gambetti, P., Sui, D. and Cui, M.Z. 1999. Identification of a novel PSD-95/Dlg/ZO-1 (PDZ)-like protein interacting with the C-terminus of Presenilin 1. *J. Biol. Chem.* 274: 32543-32546.
- Xu, X., Shi, Y.C., Gao, W., Mao, G., Zhao, G., Agrawal, S., Chisolm, G.M., Sui, D. and Cui, M.Z. 2002. The novel Presenilin 1-associated protein is a pro-apoptotic mitochondrial protein. *J. Biol. Chem.* 277: 48913-48922.
- Trinchese, F., Liu, S., Battaglia, F., Walter, S., Mathews, P.M. and Arancio, O. 2004. Progressive age-related development of Alzheimer-like pathology in APP/PS1 mice. *Ann. Neurol.* 55: 801-814.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610449. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lamarca, V., Sanz-Clemente, A., Pérez-Pé, R., Martínez-Lorenzo, M.J., Halaihel, N., Muniesa, P. and Carrodegua, J.A. 2007. Two isoforms of PSAP/MTCH1 share two pro-apoptotic domains and multiple internal signals for import into the mitochondrial outer membrane. *Am. J. Physiol. Cell Physiol.* 293: C1347-C1361.
- Mao, G., Tan, J., Gao, W., Shi, Y., Cui, M.Z. and Xu, X. 2008. Both the N-terminal fragment and the protein-protein interaction domain (PDZ domain) are required for the pro-apoptotic activity of presenilin-associated protein PSAP. *Biochim. Biophys. Acta* 1780: 696-708.
- Lamarca, V., Marzo, I., Sanz-Clemente, A. and Carrodegua, J.A. 2008. Exposure of any of two pro-apoptotic domains of Presenilin 1-associated protein/mitochondrial carrier homolog 1 on the surface of mitochondria is sufficient for induction of apoptosis in a Bax/Bak-independent manner. *Eur. J. Cell Biol.* 87: 325-334.

CHROMOSOMAL LOCATION

Genetic locus: MTCH1 (human) mapping to 6p21.2; Mtch1 (mouse) mapping to 17 A3.3.

STORAGE

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

SOURCE

MTCH1 (F-24) is an affinity purified rabbit polyclonal antibody raised against synthetic MTCH1 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

MTCH1 (F-24) is recommended for detection of MTCH1 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 MTCH1 siRNA (h): sc-95477, MTCH1 siRNA (m): sc-149669, MTCH1 shRNA Plasmid (h): sc-95477-SH, MTCH1 shRNA Plasmid (m): sc-149669-SH, MTCH1 shRNA (h) Lentiviral Particles: sc-95477-V and MTCH1 shRNA (m) Lentiviral Particles: sc-149669-V.

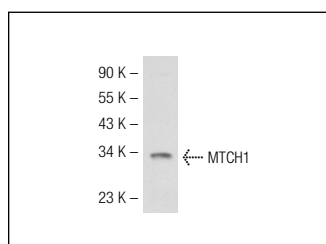
Molecular Weight of MTCH1: 42 kDa.

Positive Controls: mouse brain tissue extract or Hep G2 cell lysate: sc-2227.

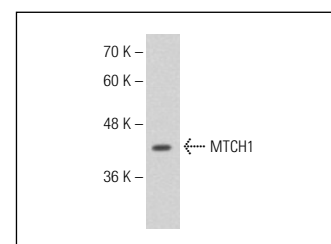
RECOMMENDED SECONDARY REAGENTS

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).

DATA



MTCH1 (F-24): sc-133799. Western blot analysis of MTCH1 expression in mouse brain tissue extract.



MTCH1 (F-24): sc-133799. Western blot analysis of MTCH1 expression in Hep G2 whole cell lysate.

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.