

MCTP2 (V-13): sc-240671

BACKGROUND

Multiple C2 domain and transmembrane region proteins (MCTPs) comprise a novel group of evolutionarily conserved proteins that contain three C2 domains, two transmembrane regions and a short C-terminal sequence. MCTP2 is an 878 amino acid multi-pass membrane protein that belongs to the MCTP family. Existing as five alternatively spliced isoforms, MCTP1 binds calcium via its C2 domains in the absence of phospholipids, and is encoded by a gene that maps to human chromosome 15q26.2. Chromosome 15 houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

- Hurowitz, G.I., Silver, J.M., Brin, M.F., Williams, D.T. and Johnson, W.G. 1993. Neuropsychiatric aspects of adult-onset Tay-Sachs disease: two case reports with several new findings. *J. Neuropsychiatry Clin. Neurosci.* 5: 30-36.
- Nalefski, E.A. and Falke, J.J. 1996. The C2 domain calcium-binding motif: structural and functional diversity. *Protein Sci.* 5: 2375-2390.
- von Poser, C., Ichtchenko, K., Shao, X., Rizo, J. and Südhof, T.C. 1997. The evolutionary pressure to inactivate. A subclass of synaptotagmins with an amino acid substitution that abolishes Ca²⁺ binding. *J. Biol. Chem.* 272: 14314-14319.
- Shin, O.H., Han, W., Wang, Y. and Südhof, T.C. 2005. Evolutionarily conserved multiple C2 domain proteins with two transmembrane regions (MCTPs) and unusual Ca²⁺ binding properties. *J. Biol. Chem.* 280: 1641-1651.
- Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. *JAAPA* 21: 21-25.
- Dan, B. 2009. Angelman syndrome: current understanding and research prospects. *Epilepsia* 50: 2331-2339.
- Wawrzik, M., Unmehopa, U.A., Swaab, D.F., van de Nes, J., Buiting, K. and Horsthemke, B. 2010. The C15orf2 gene in the Prader-Willi syndrome region is subject to genomic imprinting and positive selection. *Neurogenetics* 11: 153-161.

CHROMOSOMAL LOCATION

Genetic locus: MCTP2 (human) mapping to 15q26.2; Mctp2 (mouse) mapping to 7 D1.

SOURCE

MCTP2 (V-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MCTP2 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-240671 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MCTP2 (V-13) is recommended for detection of MCTP2 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); non cross-reactive with MCTP1.

Suitable for use as control antibody for MCTP2 siRNA (h): sc-90200, MCTP2 siRNA (m): sc-149330, MCTP2 shRNA Plasmid (h): sc-90200-SH, MCTP2 shRNA Plasmid (m): sc-149330-SH, MCTP2 shRNA (h) Lentiviral Particles: sc-90200-V and MCTP2 shRNA (m) Lentiviral Particles: sc-149330-V.

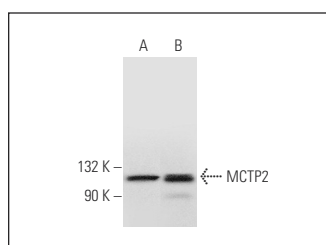
Molecular Weight of MCTP2 isoforms: 100/93/53/35/22 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411 or mouse liver extract: sc-2256.

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.

DATA



MCTP2 (V-13): sc-240671. Western blot analysis of MCTP2 expression in U-87 MG whole cell lysate (A) and mouse liver tissue extract (B).

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.

PROTOCOLS

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