

MCTP1 (E-14): sc-324109

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. MCTP1 (multiple C2 and transmembrane domain-containing protein 1) is a 999 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. The gene encoding MCTP1 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Nalefski, E.A., et al. 1996. The C2 domain calcium-binding motif: structural and functional diversity. *Protein Sci.* 5: 2375-2390.
2. von Poser, C., et al. 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.
3. Shin, O.H., et al. 2005. Evolutionarily conserved multiple C2 domain proteins with two transmembrane regions (MCTPs) and unusual Ca²⁺ binding properties. *J. Biol. Chem.* 280: 1641-1651.
4. Vera-Carbonell, A., et al. 2009. Characterization of a *de novo* complex chromosomal rearrangement in a patient with cri-du-chat and trisomy 5p syndromes. *Am. J. Med. Genet. A* 149A: 2513-2521.
5. Ravandi, F., et al. 2009. Superior outcome with hypomethylating therapy in patients with acute myeloid leukemia and high-risk myelodysplastic syndrome and chromosome 5 and 7 abnormalities. *Cancer* 115: 5746-5751.
6. Sazawal, S., et al. 2009. Haematological & molecular profile of acute myelogenous leukaemia in India. *Indian J. Med. Res.* 129: 256-261.

CHROMOSOMAL LOCATION

Genetic locus: MCTP1 (human) mapping to 5q15; Mctp1 (mouse) mapping to 13 C1.

SOURCE

MCTP1 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MCTP1 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-324109 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MCTP1 (E-14) is recommended for detection of MCTP1 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 MCTP2.

MCTP1 (E-14) is also recommended for detection of MCTP1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for MCTP1 siRNA (h): sc-91742, MCTP1 siRNA (m): sc-149329, MCTP1 shRNA Plasmid (h): sc-91742-SH, MCTP1 shRNA Plasmid (m): sc-149329-SH, MCTP1 shRNA (h) Lentiviral Particles: sc-91742-V and MCTP1 shRNA (m) Lentiviral Particles: sc-149329-V.

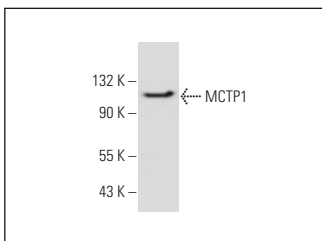
Molecular Weight of MCTP1 isoforms: 112/90/79/69/60 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236.

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



MCTP1 (E-14): sc-324109. Western blot analysis of MCTP1 expression in SK-MEL-28 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.