

MTMR2 (C-14): sc-47180

BACKGROUND

Myotubularin and the myotubularin-related proteins (MTMR1-9) belong to a highly conserved family of eukaryotic phosphatases. They are protein tyrosine phosphatases that utilize inositol phospholipids, rather than phosphoproteins, as substrates. MTMR family members hydrolyze both Phosphatidylinositol 3-phosphate (PtdIns3P) and PtdIns P2. MTMR2 interacts with MTMR5, an inactive family member that increases the enzymatic activity of MTMR2 and dictates its subcellular localization. Mutations in MTMR2 cause autosomal recessive Charcot-Marie-Tooth type 4B1 (CMT4B1), which is characterized by reduced nerve conduction velocities, focally folded myelin sheaths and demyelination. MTMR3 and MTMR4 can either interact with each other or self associate. MTMR6 regulates the activity of the calcium-activated potassium channel 3.1. MTMR9 regulates the activity of MTMR7 and MTMR8.

REFERENCES

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- Kim, S.A., Vacratsis, P.O., Firestein, R., Cleary, M.L. and Dixon, J.E. 2003. Regulation of myotubularin-related (MTMR)2 Phosphatidylinositol phosphatase by MTMR5, a catalytically inactive phosphatase. *Proc. Natl. Acad. Sci. USA* 100: 4492-4497.
- Mochizuki, Y. and Majerus, P.W. 2003. Characterization of myotubularin-related protein 7 and its binding partner, myotubularin-related protein 9. *Proc. Natl. Acad. Sci. USA* 100: 9768-9773.

CHROMOSOMAL LOCATION

Genetic locus: MTMR2 (human) mapping to 11q21; Mtmr2 (mouse) mapping to 9 A1.

SOURCE

MTMR2 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MTMR2 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-47180 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

MTMR2 (C-14) is recommended for detection of MTMR2 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).

MTMR2 (C-14) is also recommended for detection of MTMR2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MTMR2 siRNA (h): sc-61086, MTMR2 siRNA (m): sc-61087, MTMR2 shRNA Plasmid (h): sc-61086-SH, MTMR2 shRNA Plasmid (m): sc-61087-SH, MTMR2 shRNA (h) Lentiviral Particles: sc-61086-V and MTMR2 shRNA (m) Lentiviral Particles: sc-61087-V.

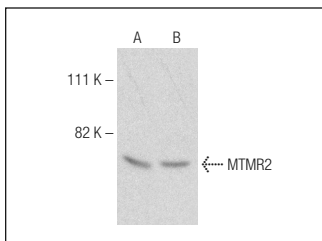
Molecular Weight of MTMR2: 73 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa whole cell lysate: sc-2200 or Caki-1 cell lysate: sc-2224.

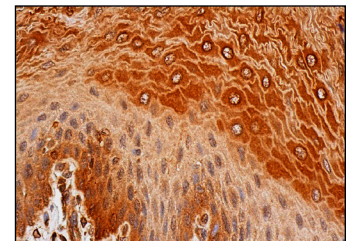
RECOMMENDED SECONDARY REAGENTS

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



MTMR2 (C-14): sc-47180. Western blot analysis of MTMR2 expression in HeLa (A) and Caki-1 (B) whole cell lysates.



MTMR2 (C-14): sc-47180. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells.

RESEARCH USE

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