

MTMR5 (h2): 293T Lysate: sc-177577

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(3,5)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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3. Kim, S.A., et al. 2003. Regulation of myotubularin-related MTMR2 phosphatidylinositol phosphatase by MTMR5, a catalytically inactive phosphatase. Proc. Natl. Acad. Sci. USA 100: 4492-4497.
4. Mochizuki, Y., et al. 2003. Characterization of myotubularin-related protein 7 and its binding partner, myotubularin-related protein 9. Proc. Natl. Acad. Sci. USA 100: 9768-9773.
5. Srivastava, S., et al. 2005. Phosphatidylinositol 3-phosphate indirectly activates KCa3.1 via 14 amino acids in the carboxy-terminus of KCa3.1. Mol. Biol. Cell 17: 146-154.
6. Lorenzo, O., et al. 2006. Systematic analysis of myotubularins: heteromeric interactions, subcellular localisation and endosomerelated functions. J. Cell Sci. 119: 2953-2959.
7. Berger, P., et al. 2006. Multi-level regulation of myotubularin-related protein-2 phosphatase activity by myotubularin-related protein-13/SET-binding factor-2. Hum. Mol. Genet. 15: 569-579.

CHROMOSOMAL LOCATION

Genetic locus: SBF1 (human) mapping to 22q13.33.

PRODUCT

MTMR5 (h2): 293T Lysate represents a lysate of human MTMR5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

MTMR5 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive MTMR5 antibodies. Recommended use: 10-20 µl per lane.

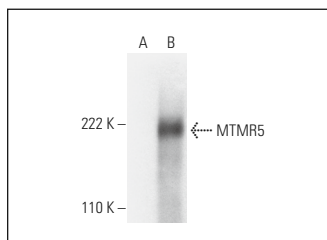
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MTMR5 (B-9): sc-393488 is recommended as a positive control antibody for Western Blot analysis of enhanced human MTMR5 expression in MTMR5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



MTMR5 (B-9): sc-393488. Western blot analysis of MTMR5 expression in non-transfected: sc-117752 (A) and human MTMR5 transfected: sc-177577 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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