

MPP4 (m): 293T Lysate: sc-121731

BACKGROUND

Progression of cells from interphase to mitosis involves alterations in cell structures and activities. The transition from G₂ to M phase is induced by M phase-promoting factor (MPF). In M phase, many proteins are phosphorylated directly by MPF or indirectly by kinases activated by MPF. These M phase phosphoproteins (MPPs), also known as MPHOSPHs, permit disassembly of interphase structures and generation of M phase enzymatic activities and structures. MPP4 (membrane protein, palmitoylated 4 (MAGUK p55 subfamily member 4)), also known as DLG6, ALS2CR5, MAGUK p55 subfamily member 4, discs large homolog 6 or amyotrophic lateral sclerosis 2 chromosomal region candidate gene 5 protein, is a 637 amino acid protein and member of the MAGUK family that localizes to cytoplasm and likely plays a role in the development of retinal photoreceptors. MPP4 is highly expressed in retina, and weakly expressed in testis and brain. MPP4 contains one guanylate kinase-like domain, one SH3 domain, one PDZ (DHR) domain and two L27 domains. Due to alternative splicing events, five MPP4 isoforms exist. Studies suggest MPP4 may be responsible for autosomal recessive retinitis pigmentosa 26 (RP26), as the two genes colocalize on human chromosome 2q33.1.

REFERENCES

- Bayés, M., Goldaracena, B., Martínez-Mir, A., Iragui-Madoz, M.I., Solans, T., Chivelet, P., Bussaglia, E., Ramos-Arroyo, M.A., Baiget, M., Vilageliu, L., Balcells, S., González-Duarte, R. and Grinberg, D. 1998. A new autosomal recessive retinitis pigmentosa locus maps on chromosome 2q31-q33. *J. Med. Genet.* 35: 141-145.
- Stöhr, H. and Weber, B.H. 2001. Cloning and characterization of the human retina-specific gene MPP4, a novel member of the p55 subfamily of MAGUK proteins. *Genomics* 74: 377-384.
- Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606575. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Conte, I., Lestingi, M., den Hollander, A., Miano, M.G., Alfano, G., Circolo, D., Pugliese, M., Testa, F., Simonelli, F., Rinaldi, E., Baiget, M., Banfi, S. and Ciccodicola, A. 2002. Characterization of MPP4, a gene highly expressed in photoreceptor cells, and mutation analysis in retinitis pigmentosa. *Gene* 297: 33-38.
- Kantardzhieva, A., Gensens, I., Alexeeva, S., Punte, I.M., Versteeg, I., Krieger, E., Neefjes-Mol, C.A., den Hollander, A.I., Letteboer, S.J., Klooster, J., Cremers, F.P., Roepman, R. and Wijnholds, J. 2005. MPP5 recruits MPP4 to the CRB1 complex in photoreceptors. *Invest. Ophthalmol. Vis. Sci.* 46: 2192-2201.
- Stöhr, H., Molday, L.L., Molday, R.S., Weber, B.H., Biedermann, B., Reichenbach, A. and Krämer, F. 2005. Membrane-associated guanylate kinase proteins MPP4 and MPP5 associate with Veli3 at distinct inter-cellular junctions of the neurosensory retina. *J. Comp. Neurol.* 481: 31-41.

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.

CHROMOSOMAL LOCATION

Genetic locus: Mpp4 (mouse) mapping to 1 C1.3.

PRODUCT

MPP4 (m): 293T Lysate represents a lysate of mouse MPP4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MPP4 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive MPP4 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.

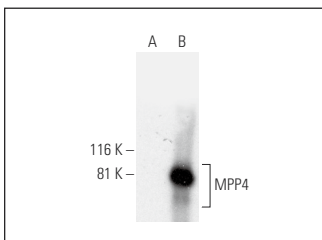
MPP4 (C-7): sc-393413 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse MPP4 expression in MPP4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

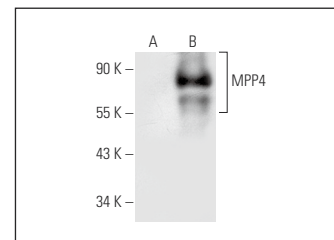
To ensure optimal results, the following support reagents are recommended:

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



MPP4 (C-7): sc-393413. Western blot analysis of MPP4 expression in non-transfected: sc-117752 (A) and mouse MPP4 transfected: sc-121731 (B) 293T whole cell lysates.



MPP4 (E-6): sc-393587. Western blot analysis of MPP4 expression in non-transfected: sc-117752 (A) and mouse MPP4 transfected: sc-121731 (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.