SANTA CRUZ BIOTECHNOLOGY, INC.

MPP4 (E-6): sc-393587

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Progression of cells from interphase to mitosis involves alterations in cell structures and activities. The transition from G_2 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, also known as membrane protein, palmitoylated 4, MAGUK p55 subfamily member 4, ALS2CR5, discs large homolog 6 (DLG6), 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 co-localize on human chromosome 2q33.1.

REFERENCES

1. Bayes, M., et al. 1998. A new autosomal recessive retinitis pigmentosa locus maps on chromosome 2q31-q33. J. Med. Genet. 35: 141-145.
2. 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.
3. 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/
4. Conte, I., et al. 2002. Characterization of MPP4, a gene highly expressed in photoreceptor cells, and mutation analysis in retinitis pigmentosa. Gene 297: 33-38.
5. Kantardzhieva, A., et al. 2005. MPP5 recruits MPP4 to the CRB1 complex in photoreceptors. Invest. Ophthalmol. Vis. Sci. 46: 2192-2201.
6. Stöhr, H., et al. 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.

CHROMOSOMAL LOCATION

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

SOURCE

MPP4 (E-6) is a mouse monoclonal antibody raised against amino acids 165-268 mapping within an internal region of MPP4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MPP4 (E-6) is recommended for detection of MPP4 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for MPP4 siRNA (m): sc-149536, MPP4 shRNA Plasmid (m): sc-149536-SH and MPP4 shRNA (m) Lentiviral Particles: sc-149536-V.

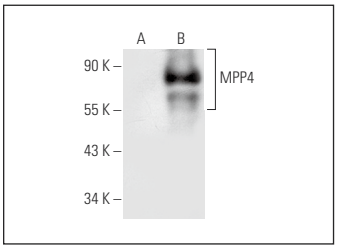
Molecular Weight of MPP4: 72 kDa.

Positive Controls: MPP4 (m): 293T Lysate: sc-121731.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



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.

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 for detailed protocols and support products.