

MPDZ (N-13): sc-135504

BACKGROUND

MPDZ (multiple PDZ domain protein), also known as MUPP1, is a 2,042 amino acid peripheral membrane protein that co-localizes with SR-2C on the apical membrane of epithelial choroid plexus cells. Expressed in heart, brain, placenta, liver, skeletal muscle, kidney and pancreas, MPDZ causes clustering of SR-2C, a serotonin receptor, at the cell surface. MPDZ is member of the NMDAR signaling complex that is involved in regulating AMPAR potentiation and synaptic plasticity in excitatory synapses. As a tight junction protein in epithelial cells, MPDZ interacts with G protein-coupled receptor SSTR3 and together regulate transepithelial permeability in a pertussis toxin sensitive manner. MPDZ along with KIR4.2 may form a complex with other proteins in the nephron and act to regulate ion transport. MPDZ contains one L27 domain and thirteen PDZ domains.

REFERENCES

1. Sitek, B., et al. 2003. Expression of MUPP1 protein in mouse brain. *Brain Res.* 970: 178-187.
2. Sharma, S.C., et al. 2007. Design, synthesis, and evaluation of linear and cyclic peptide ligands for PDZ10 of the multi-PDZ domain protein MUPP1. *Biochemistry* 46: 12709-12720.
3. Lanaspá, M.A., et al. 2007. The tight junction protein, MUPP1, is up-regulated by hypertonicity and is important in the osmotic stress response in kidney cells. *Proc. Natl. Acad. Sci. USA* 104: 13672-13677.
4. Estevez, M.A., et al. 2008. The neuronal Rho A GEF, Tech, interacts with the synaptic multi-PDZ-domain-containing protein, MUPP1. *J. Neurochem.* 106: 1287-1297.
5. Karpyak, V.M., et al. 2009. Sequence variations of the human MPDZ gene and association with alcoholism in subjects with European ancestry. *Alcohol. Clin. Exp. Res.* 33: 712-721.
6. Sindic, A., et al. 2009. MUPP1 complexes renal K⁺ channels to alter cell surface expression and whole cell currents. *Am. J. Physiol. Renal Physiol.* 297: F36-F45.
7. Liew, C.W., et al. 2009. Interaction of the human somatostatin receptor 3 with the multiple PDZ domain protein MUPP1 enables somatostatin to control permeability of epithelial tight junctions. *FEBS Lett.* 583: 49-54.
8. Ackermann, F., et al. 2009. CaMKII α interacts with multi-PDZ domain protein MUPP1 in spermatozoa and prevents spontaneous acrosomal exocytosis. *J. Cell Sci.* 122: 4547-4557.
9. Funk, A.J., et al. 2009. Decreased expression of NMDA receptor-associated proteins in frontal cortex of elderly patients with schizophrenia. *Neuroreport* 20: 1019-1022.

CHROMOSOMAL LOCATION

Genetic locus: MPDZ (human) mapping to 9p23; Mpdz (mouse) mapping to 4 C3.

SOURCE

MPDZ (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MPDZ of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-135504 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MPDZ (N-13) is recommended for detection of MPDZ isoforms 1-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MPDZ (N-13) is also recommended for detection of MPDZ isoforms 1-3 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for MPDZ siRNA (h): sc-92925, MPDZ siRNA (m): sc-149528, MPDZ shRNA Plasmid (h): sc-92925-SH, MPDZ shRNA Plasmid (m): sc-149528-SH, MPDZ shRNA (h) Lentiviral Particles: sc-92925-V and MPDZ shRNA (m) Lentiviral Particles: sc-149528-V.

Molecular Weight of MPDZ: 220 kDa.

Positive Controls: rat brain extract: sc-2392.

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) 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.

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 or our catalog for detailed protocols and support products.



Try **MPDZ (43): sc-136293**, our highly recommended monoclonal alternative to MPDZ (N-13).