

# MPDZ (N-13): sc-135504



The Power to Question

## 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

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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<sup>+</sup> 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 $\alpha$  interacts with multi-PDZ domain protein MUPP1 in spermatozoa and prevents spontaneous acrosomal exocytosis. *J. Cell Sci.* 122: 4547-4557.
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## 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  $\mu$ 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  $\mu$ 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](http://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).