

4.1N (S-20): sc-27676

BACKGROUND

4.1N protein (band 4.1-like protein 1, neuronal protein 4.1) binds and stabilizes D2 and D3 dopamine receptors at the neuronal plasma membrane. 4.1 adapter proteins mediate interactions between the cytoskeleton and the overlying plasma membrane. These multiple 4.1N interactions with the cell cytoskeleton and plasma membrane may confer stability and plasticity to neuronal membrane. The 4.1N protein is expressed highly in the brain, and is found at lower levels in heart, kidney, pancreas, placenta, lung and skeletal muscle. Four homologous genes (4.1R, 4.1G, 4.1N, and 4.1B) undergo complex alternative splicing. The distribution of these 4.1 spliced gene products along the nephron suggests their involvement in targeting of selected transmembrane proteins in kidney epithelium and, therefore, in regulation of specific kidney functions.

REFERENCES

1. Ye, K., et al. 1999. Protein 4.1N binding to nuclear mitotic apparatus protein in PC12 cells mediates the antiproliferative actions of nerve growth factor. *J. Neurosci.* 19: 10747-10756.
2. Ye, K., et al. 2000. Pike. A nuclear GTPase that enhances PI3 kinase activity and is regulated by protein 4.1N. *Cell* 103: 919-930.
3. Binda, A.V., et al. 2002. D2 and D3 dopamine receptor cell surface localization mediated by interaction with protein 4.1N. *Mol. Pharmacol.* 62: 507-513.
4. Ramez, M., et al. 2003. Distinct distribution of specific members of protein 4.1 gene family in the mouse nephron. *Kidney Int.* 63: 1321-1337.
5. Zhang, S., et al. 2003. Protein 4.1N is required for translocation of inositol 1,4,5-trisphosphate receptor type 1 to the basolateral membrane domain in polarized Madin-Darby canine kidney cells. *J. Biol. Chem.* 278: 4048-4056.

CHROMOSOMAL LOCATION

Genetic locus: EPB41L1 (human) mapping to 20q11.23; Epb4.1l1 (mouse) mapping to 2 H1.

SOURCE

4.1N (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 4.1N of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-27676 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

4.1N (S-20) is recommended for detection of 4.1N of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); may cross-react with 4.1B.

4.1N (S-20) is also recommended for detection of 4.1N in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for 4.1N siRNA (h): sc-105013, 4.1N siRNA (m): sc-108941, 4.1N shRNA Plasmid (h): sc-105013-SH, 4.1N shRNA Plasmid (m): sc-108941-SH, 4.1N shRNA (h) Lentiviral Particles: sc-105013-V and 4.1N shRNA (m) Lentiviral Particles: sc-108941-V.

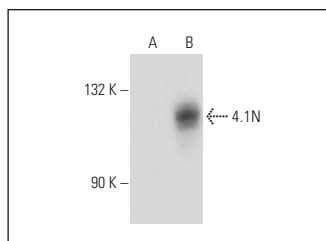
Molecular Weight of 4.1N: 100-135 kDa.

Positive Controls: 4.1N (h4): 293T Lysate: sc-176778.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



4.1N (S-20): sc-27676. Western blot analysis of 4.1N expression in non-transfected: sc-117752 (A) and human 4.1N transfected: sc-176778 (B) 293T whole cell lysates.

RESEARCH USE

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

MONOS
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Try **4.1N (B-2): sc-374367** or **4.1N (F-2): sc-514652**, our highly recommended monoclonal alternatives to 4.1N (S-20).