

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

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. A nuclear gtpase that enhances PI3kinase 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. 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.
5. 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.
6. Fukatsu, K., et al. 2004. Lateral diffusion of inositol 1,4,5-trisphosphate receptor type 1 is regulated by Actin filaments and 4.1N in neuronal dendrites. *J. Biol. Chem.* 279: 48976-48982.

CHROMOSOMAL LOCATION

Genetic locus: EPB41L1 (human) mapping to 20q11.23.

PRODUCT

4.1N (h4): 293T Lysate represents a lysate of human 4.1N transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

4.1N (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive 4.1N antibodies. Recommended use: 10-20 µl per lane.

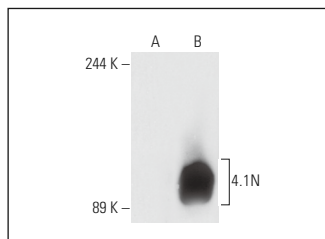
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

4.1N (4): sc-135817 is recommended as a positive control antibody for Western Blot analysis of enhanced human 4.1N expression in 4.1N transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

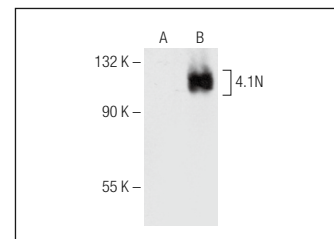
STORAGE

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.

DATA



4.1N (4): sc-135817. 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.



4.1N (B-2): sc-374367. 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.