

4.1N (B-2): sc-374367

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.

CHROMOSOMAL LOCATION

Genetic locus: EPB41L1 (human) mapping to 20q11.23; Epb41l1 (mouse) mapping to 2 H1.

SOURCE

4.1N (B-2) is a mouse monoclonal antibody raised against amino acids 573-765 mapping within an internal region of 4.1N of human 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.

4.1N (B-2) is available conjugated to agarose (sc-374367 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374367 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374367 PE), fluorescein (sc-374367 FITC), Alexa Fluor® 488 (sc-374367 AF488), Alexa Fluor® 546 (sc-374367 AF546), Alexa Fluor® 594 (sc-374367 AF594) or Alexa Fluor® 647 (sc-374367 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374367 AF680) or Alexa Fluor® 790 (sc-374367 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

4.1N (B-2) is recommended for detection of 4.1N of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

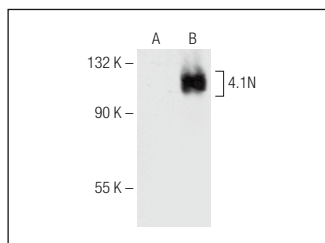
Molecular Weight of 4.1N: 100-135 kDa.

Positive Controls: 4.1N (h4): 293T Lysate: sc-176778 or rat brain extract: sc-2392.

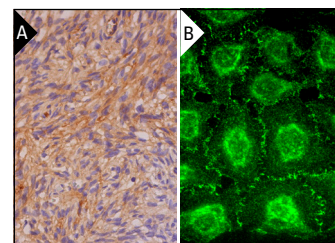
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



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.



4.1N (B-2): sc-374367. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of ovarian stroma cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and nuclear localization (B).

SELECT PRODUCT CITATIONS

1. Ning, S., et al. 2021. Protein 4.1 family and ion channel proteins interact to regulate the process of heart failure in rats. *Acta Histochem.* 123: 151748.

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.