SANTA CRUZ BIOTECHNOLOGY, INC.

4.1B (K-18): sc-25965

The Power to Question

BACKGROUND

The 4.1 gene family encodes a group of multifunctional cytoskeletal proteins (4.1R, 4.1G, 4.1N and 4.1B), which are predominantly expressed in the nervous system. 4.1G is a protein that stabilizes spectrin-actin interactions and is associated with hereditary elliptocytosis. Red blood cell 4.1, designated 4.1R, is a multifunctional protein that is essential for maintaining erythrocyte shape and membrane mechanical properties. Both 4.1R and 4.1G are distributed in a unique pattern in the cerebellum and are believed to modulate the membrane mechanical properties of neuronal cells by promoting fodrin/actin association. 4.1N and 4.1B, designated EPB41L1 and EPB41L3, respectively, are strongly expressed in the brain. Antibodies to 4.1N have been reported to detect mulitple forms, each enriched in postsynaptic density preparations relative to brain homogenate. Antibodies to 4.1B have been reported to detect two forms.

CHROMOSOMAL LOCATION

Genetic locus: EPB41L3 (human) mapping to 18p11.31; Epb4.1l3 (mouse) mapping to 17 E1.3.

SOURCE

4.1B (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 4.1B 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-25965 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

4.1B (K-18) is recommended for detection of 4.1B 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).

4.1B (K-18) is also recommended for detection of 4.1B in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for 4.1B siRNA (h): sc-40291, 4.1B siRNA (m): sc-40292, 4.1B shRNA Plasmid (h): sc-40291-SH, 4.1B shRNA Plasmid (m): sc-40292-SH, 4.1B shRNA (h) Lentiviral Particles: sc-40291-V and 4.1B shRNA (m) Lentiviral Particles: sc-40292-V.

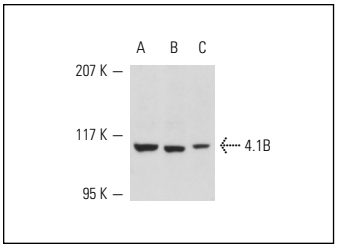
Molecular Weight of 4.1B: 108 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HEL92.1.7 cell lysate: sc-2270 or Hep G2 cell lysate: sc-2227.

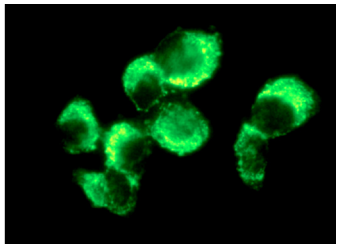
RECOMMENDED SECONDARY REAGENTS

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



4.1B (K-18): sc-25965. Western blot analysis of 4.1B expression in COS (**A**), KNRK (**B**) and HEL 92.1.7 (**C**) whole cell lysates.



4.1B (K-18): sc-25965. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

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.