

## 4.1R (P-20): sc-25968

### 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 multiple 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: EPB41 (human) mapping to 1p35.3; Epb4.1 (mouse) mapping to 4 D2.3.

### SOURCE

4.1R (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 4.1R 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-25968 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

4.1R (P-20) is recommended for detection of 4.1R 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), 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).

4.1R (P-20) is also recommended for detection of 4.1R in additional species, including equine and porcine.

Suitable for use as control antibody for 4.1R siRNA (h): sc-40295, 4.1R siRNA (m): sc-40296, 4.1R shRNA Plasmid (h): sc-40295-SH, 4.1R shRNA Plasmid (m): sc-40296-SH, 4.1R shRNA (h) Lentiviral Particles: sc-40295-V and 4.1R shRNA (m) Lentiviral Particles: sc-40296-V.

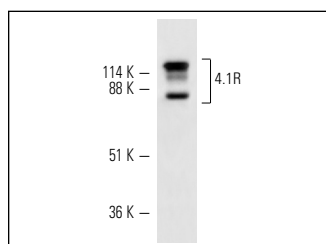
Molecular Weight of 4.1R isoforms: 80/135 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, MOLT-4 cell lysate: sc-2233 or Jurkat whole cell lysate: sc-2204.

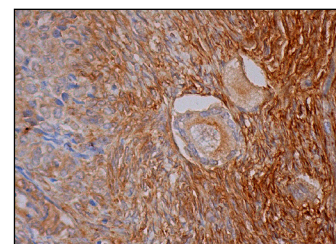
### RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

### DATA



4.1R (P-20): sc-25968. Western blot analysis of 4.1R expression in Jurkat whole cell lysate.



4.1R (P-20): sc-25968. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing membrane and cytoplasmic staining of follicle cells and ovarian stroma cells.

### 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.

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Try **4.1R (B-11): sc-166759** or **4.1R (D-11): sc-514096**, our highly recommended monoclonal alternatives to 4.1R (P-20).