

## DRP2 (S-20): sc-20317

### BACKGROUND

Dystrophin, utrophin and dystrophin-related protein 2 (DRP2) are Actin-binding proteins that are involved in anchoring the cytoskeleton to the plasma membrane. Dystrophin is the protein product of the Duchenne/Becker muscular dystrophy gene. Dystrophin is expressed in muscle and brain tissues, where it is localized to the inner surface of the plasma membrane. Evidence suggests that the upregulation of utrophin (also known as DRP1) can reduce the dystrophic pathology. DRP2 is principally expressed in the brain and spinal cord. Analysis of DRP2 expression in rat brain on SDS-PAGE reveals a characteristic quartet of bands from 100-120 kDa. DRP2 exhibits a punctate staining pattern of rat neuronal dendrites and in neuropil. DRP2 forms a complex with dystroglycan at the surface of myelin-forming Schwann cells and may play a role in the terminal stages of myelinogenesis in the peripheral nervous system. The gene encoding human DRP2 maps to chromosome Xq22.

### REFERENCES

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2. Winder, S.J., et al. 1995. Utrophin Actin binding domain: analysis of Actin binding and cellular targeting. *J. Cell Sci.* 108: 63-71.
3. Rybakova, I.N., et al. 1996. A new model for the interaction of dystrophin with F-Actin. *J. Cell Biol.* 135: 661-672.
4. Tinsley, J.M., et al. 1996. Amelioration of the dystrophic phenotype of mdx mice using a truncated utrophin transgene. *Nature* 384: 349-353.
5. Roberts, R.G., et al. 1996. Characterization of DRP2, a novel human dystrophin homologue. *Nat. Genet.* 13: 223-226.
6. Gamolini, A.O., et al. 1998. Muscle and neural isoforms of Agrin increase utrophin expression in cultured myotubes via a transcriptional regulatory mechanism. *J. Biol. Chem.* 273: 736-743.
7. Roberts, R.G., et al. 2000. Association of dystrophin-related protein 2 (DRP2) with postsynaptic densities in rat brain. *Mol. Cell. Neurosci.* 16: 674-685.
8. Sherman, D.L., et al. 2001. Specific disruption of a Schwann cell dystrophin-related protein complex in a demyelinating neuropathy. *Neuron* 30: 677-687.

### CHROMOSOMAL LOCATION

Genetic locus: DRP2 (human) mapping to Xq22.1; Drp2 (mouse) mapping to X E3.

### SOURCE

DRP2 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DRP2 of human origin.

### STORAGE

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

### 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-20317 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

DRP2 (S-20) is recommended for detection of DRP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

DRP2 (S-20) is also recommended for detection of DRP2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DRP2 siRNA (h): sc-43492, DRP2 siRNA (m): sc-43493, DRP2 shRNA Plasmid (h): sc-43492-SH, DRP2 shRNA Plasmid (m): sc-43493-SH, DRP2 shRNA (h) Lentiviral Particles: sc-43492-V and DRP2 shRNA (m) Lentiviral Particles: sc-43493-V.

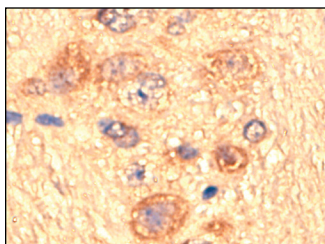
Molecular Weight of DRP2: 84 kDa.

Positive Controls: Rat brain extract: sc-2392 or mouse brain extract: sc-2253.

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

### DATA



DRP2 (S-20): sc-20317. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing membrane localization.

### RESEARCH USE

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