SANTA CRUZ BIOTECHNOLOGY, INC.

DRP2 (C-20): sc-20318



The Power to Question

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

- Voit, T., Stuettgen, P., Cremer, M. and Goebel, H.H. 1991. Dystrophin as a diagnostic marker in Duchenne and Becker muscular dystrophy. Correlation of immunofluorescence and Western blot. Neuropediatrics 22: 152-162.
- Winder, S.J., Hemmings, L., Maciver, S.K., Bolton, S.J., Tinsley, J.M., Davies, K.E., Critchley, D.R. and Kendrick-Jones, J. 1995. Utrophin Actin binding domain: analysis of Actin binding and cellular targeting. J. Cell. Sci. 108: 63-71.
- Rybakova, I.N., Amann, K.J. and Ervasti, J.M. 1996. A new model for the interaction of dystrophin with F-Actin. J. Cell Biol. 135: 661-672.
- Tinsley, J.M., Potter, A.C., Phelps, S.R., Fisher, R., Trickett, J.I. and Davies, K.E. 1996. Amelioration of the dystrophic phenotype of mdx mice using a truncated utrophin transgene. Nature 384: 349-353.
- Roberts, R.G., Freeman, T.C., Kendall, E., Vetrie, D.L., Dixon, A.K., Shaw-Smith, C., Bone, Q. and Bobrow, M. 1996. Characterization of DRP2, a novel human dystrophin homologue. Nat. Genet. 13: 223-226.
- Gamolini, A.O., Burton, E.A., Tinsley, J.M., Ferns, M.J., Cartaud, A., Cartaud, J., Davies, K.E., Lunde, J.A. and Jasmin, B.J. 1998. Muscle and neural isoforms of Agrin increase utrophin expression in cultured myotubes via a transcriptional regulatory mechanism. J. Biol. Chem. 273: 736-743.
- Roberts, R.G. and Sheng, M. 2000. Association of dystrophin-related protein 2 (DRP2) with postsynaptic densities in rat brain. Mol. Cell. Neurosci. 16: 674-685.
- Sherman, D.L., Fabrizi, C., Gillespie, C.S. and Brophy, P.J. 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; Drp2 (mouse) mapping to X E3.

SOURCE

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

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20318 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DRP2 (C-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), immunoprecipitation [1–2 μ g per 100–500 μ g 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).

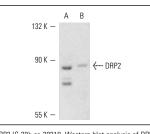
DRP2 (C-20) is also recommended for detection of DRP2 in additional species, including canine and porcine.

Suitable for use as control antibody for DRP2 siRNA (h): sc-43492 and DRP2 siRNA (m): sc-43493.

Molecular Weight of DRP2: 84 kDa.

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

DATA



DRP2 (C-20): sc-20318. Western blot analysis of DRP2 expression in rat brain (\bf{A}) and mouse brain (\bf{B}) tissue extracts.

STORAGE

Store at 4° C, **D0 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 or our catalog for detailed protocols and support products.