

Drebrin (B-6): sc-393097

BACKGROUND

Drebrins (developmentally regulated brain proteins) are cytoplasmic proteins that bind F-Actin in the brain and are involved in cell migration, extension of neuronal processes, and plasticity of dendrites. There are three isoforms: two embryonic types (E1 and E2), and an adult type (A) that are generated by alternative RNA splicing from a single Drebrin gene. Drebrins are expressed mainly in brain neurons but are also found in skeletal muscle, heart, placenta, pancreas, and kidney. Drebrin has been designated as a marker of the dendritic spine. Decreases in Drebrin levels in the brain are associated with Alzheimer's disease and Down syndrome. The gene encoding for the human Drebrin protein is located on chromosome 5.

REFERENCES

- Shirao, T. 1995. The roles of microfilament-associated proteins, drebrins, in brain morphogenesis: a review. *J. Biochem.* 117: 231-236.
- Hayashi, K., et al. 1996. Modulatory role of Drebrin on the cytoskeleton within dendritic spines in the rat cerebral cortex. *J. Neurosci.* 16: 7161-7170.
- Hayashi, K., et al. 1999. Change in the shape of dendritic spines caused by overexpression of Drebrin in cultured cortical neurons. *J. Neurosci.* 19: 3918-3925.
- Peitsch, W.K., et al. 1999. Drebrin is a widespread actin-associating protein enriched at junctional plaques, defining a specific microfilament anchorage system in polar epithelial cells. *Eur. J. Cell Biol.* 78: 767-778.
- Shim, K.S., et al. 2002. Drebrin, a dendritic spine protein, is manifold decreased in brains of patients with Alzheimer's disease and Down syndrome. *Neurosci. Lett.* 324: 209-212.
- SWISS-PROT/TrEMBL (Q16643). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: DBN1 (human) mapping to 5q35.3; Dbn1 (mouse) mapping to 13 B1.

SOURCE

Drebrin (B-6) is a mouse monoclonal antibody raised against amino acids 31-186 mapping near the N-terminus of Drebrin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Drebrin (B-6) is recommended for detection of Drebrin isoforms A and B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Drebrin (B-6) is also recommended for detection of Drebrin isoforms A and B in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Drebrin siRNA (h): sc-43731, Drebrin siRNA (m): sc-63303, Drebrin shRNA Plasmid (h): sc-43731-SH, Drebrin shRNA Plasmid (m): sc-63303-SH, Drebrin shRNA (h) Lentiviral Particles: sc-43731-V and Drebrin shRNA (m) Lentiviral Particles: sc-63303-V.

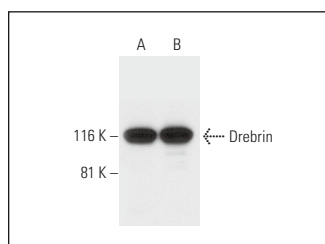
Molecular Weight of Drebrin: 120 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, NIH/3T3 whole cell lysate: sc-2210 or T98G cell lysate: sc-2294.

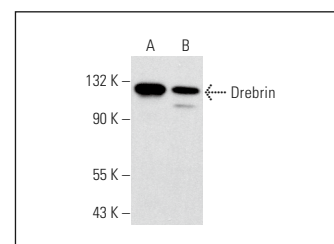
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Drebrin (B-6): sc-393097. Western blot analysis of Drebrin expression in K-562 (A) and T98G (B) whole cell lysates.



Drebrin (B-6): sc-393097. Western blot analysis of Drebrin expression in NIH/3T3 (A) and RPMI2650 (B) whole cell lysates.

RESEARCH USE

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