

# DISC-1 (M-45): sc-134506

## BACKGROUND

The "disrupted in schizophrenia" gene locus DISC is associated with patients afflicted with schizophrenia as a result of chromosomal translocations. DISC-1 encodes a large protein predicted to contain a globular N-terminal domain and a helical C-terminal domain, both of which have the potential to form interactions with other proteins. DISC-1 interacts with proteins involved in the centrosome and cytoskeletal system, including MIP-T3, MAP-1A and nudel; proteins which localize receptors to membranes, including  $\alpha$ -actinin-2 and spectrin  $\beta$  IV; and proteins which transduce signals from membrane receptors, including ATF-4 and ATF-5. Therefore, DISC-1 is thought to be involved in intracellular transport, neurite architecture and/or neuronal migration, all of which are thought to be pathogenic in the schizophrenic brain. DISC-1 localizes to the nucleus, whereas mutant DISC-1 localization occurs mainly in the cytoplasm.

## REFERENCES

- Ozeki, Y., et al. 2003. Disrupted in schizophrenia-1 (DISC-1): mutant truncation prevents binding to NUDE-like (nudel) and inhibits neurite outgrowth. *Proc. Natl. Acad. Sci. USA* 100: 289-294.
- Morris, J.A., et al. 2003. DISC-1 (disrupted in schizophrenia-1) is a centrosome-associated protein that interacts with MAP-1A, MIP-T3, ATF-4/5 and nudel: regulation and loss of interaction with mutation. *Hum. Mol. Genet.* 12: 1591-1608.
- Miyoshi, K., et al. 2003. Disrupted in schizophrenia-1, a candidate gene for schizophrenia, participates in neurite outgrowth. *Mol. Psychiatry* 8: 685-694.
- Schurov, I.L., et al. 2004. Expression of developing mouse brain indicates its role in neurodevelopment. *Mol. Psychiatry* 9: 1100-1110.
- Brandon, N.J., et al. 2004. Disrupted in schizophrenia 1 and Nudel form a neurodevelopmentally regulated protein complex: implications for schizophrenia and other major neurological disorders. *Mol. Cell. Neurosci.* 25: 42-55.
- Brandon, N.J., et al. 2005. Subcellular targeting of DISC1 is dependent on a domain independent from the Nudel binding site. *Mol. Cell. Neurosci.* 28: 613-624.

## CHROMOSOMAL LOCATION

Genetic locus: Disc1 (mouse) mapping to 8 E2.

## SOURCE

DISC-1 (M-45) is a rabbit polyclonal antibody raised against amino acids 705-749 mapping near the C-terminus of DISC-1 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

DISC-1 (M-45) is recommended for detection of DISC-1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for DISC-1 siRNA (m): sc-60540, DISC-1 siRNA (r): sc-106989, DISC-1 shRNA Plasmid (m): sc-60540-SH, DISC-1 shRNA Plasmid (r): sc-106989-SH, DISC-1 shRNA (m) Lentiviral Particles: sc-60540-V and DISC-1 shRNA (r) Lentiviral Particles: sc-106989-V.

Molecular Weight of DISC-1 L isoform: 100 kDa.

Molecular Weight of DISC-1 LV isoform: 98 kDa.

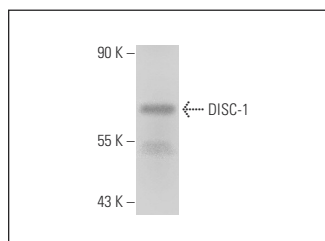
Molecular Weight of DISC-1 S isoform: 71 kDa.

Positive Controls: BC<sub>3</sub>H1 cell lysate: sc-2299.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



DISC-1 (M-45): sc-134506. Western blot analysis of DISC-1 expression in BC<sub>3</sub>H1 whole cell lysate.

## STORAGE

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



Try **DISC-1 (B-2): sc-365591**, our highly recommended monoclonal alternative to DISC-1 (M-45).