

netrin G2 (Y-18L): sc-100330

BACKGROUND

Netrin G1 and netrin G2, also referred to as laminin-1 and laminin-2, are membrane bound axon guidance molecules involved in synaptic formation and maintenance. They comprise a subgroup within the UNC-6/netrin family. Both genes have been associated with schizophrenia involving single nucleotide polymorphisms. They are both expressed in the brain but G1 is most predominantly expressed in the thalamus and G2 is most predominantly expressed in the cortex and hippocampus. These two proteins differ from classical netrins by their failure to bind netrin receptors, the presence of a glycosyl phosphatidylinositol membrane anchor, and the generation of multiple isoforms. Netrin G2 contains one laminin N-terminal domain and three laminin EGF-like domains. It selectively interacts with LRRC4 and this association may mediate cell adhesion. In addition, netrin G2 is significantly downregulated in bladder transitional cell carcinoma (TCC) and may be a putative tumor suppressor gene.

REFERENCES

1. Nakashiba, T., et al. 2002. Complementary expression and neurite outgrowth activity of netrin G subfamily members. *Mech. Dev.* 111: 47-60.
2. Amira, N., et al. 2004. Expression in bladder transitional cell carcinoma by real-time quantitative reverse transcription polymerase chain reaction array of 65 genes at the tumor suppressor locus 9q34.1-2: identification of 5 candidates tumor suppressor genes. *Int. J. Cancer* 111: 539-542.
3. Miyashita, T., et al. 2005. Strong expression of netrin G2 in the monkey claustrum. *Neuroscience* 136: 487-496.
4. Meerabux, J.M., et al. 2005. Human netrin G1 isoforms show evidence of differential expression. *Genomics* 86: 112-116.
5. Aoki-Suzuki, M., et al. 2005. A family-based association study and gene expression analyses of netrin G1 and G2 genes in schizophrenia. *Biol. Psychiatry* 57: 382-393.
6. Kim, S., et al. 2006. NGL family PSD-95-interacting adhesion molecules regulate excitatory synapse formation. *Nat. Neurosci.* 9: 1294-1301.
7. Eastwood, S.L., et al. 2007. Decreased mRNA expression of netrin G1 and netrin G2 in the temporal lobe in schizophrenia and bipolar disorder. *Neuropsychopharmacology* 33: 933-945.
8. Nishimura-Akiyoshi, S., et al. 2007. Axonal netrin Gs transneuronally determine lamina-specific subdendritic segments. *Proc. Natl. Acad. Sci. USA* 104: 14801-14806.

CHROMOSOMAL LOCATION

Genetic locus: NTNG2 (human) mapping to 9q34.13; Ntn2 (mouse) mapping to 2 B.

SOURCE

netrin G2 (Y-18L) is a mouse monoclonal antibody raised against recombinant netrin G2 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_{2b} kappa light chain in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

netrin G2 (Y-18L) is recommended for detection of netrin G2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for netrin G2 siRNA (h): sc-106296, netrin G2 siRNA (m): sc-149918, netrin G2 shRNA Plasmid (h): sc-106296-SH, netrin G2 shRNA Plasmid (m): sc-149918-SH, netrin G2 shRNA (h) Lentiviral Particles: sc-106296-V and netrin G2 shRNA (m) Lentiviral Particles: sc-149918-V.

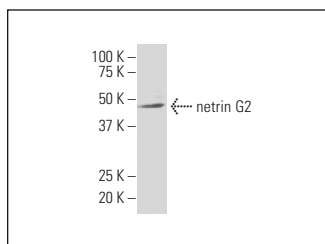
Molecular Weight of netrin G2: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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).

DATA



netrin G2 (Y-18L): sc-100330. Western blot analysis of netrin G2 expression in HeLa 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.

PROTOCOLS

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