

netrin G1 (h): 293T Lysate: sc-114149

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. 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 G1 has at least nine isoforms, all of which are expressed in adult brain. Isoforms G1a, c, d, and e are also expressed in fetal brain. G1c and G1d are the most highly expressed netrin G1 isoforms. Netrin G1 is involved in NMDA receptor function and may play a role in Rett syndrome (RTT), atypical autism, epilepsy and mental retardation.

REFERENCES

1. Yin, Y., et al. 2002. Laminins: laminin- and netrin-related genes expressed in distinct neuronal subsets. *Mol. Cell. Neurosci.* 19: 344-358.
2. Fukasawa, M., et al. 2004. Case-control association study of human netrin G1 gene in Japanese schizophrenia. *J. Med. Dent. Sci.* 51: 121-128.
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. Borg, I., et al. 2005. Disruption of netrin G1 by a balanced chromosome translocation in a girl with Rett syndrome. *Eur. J. Hum. Genet.* 13: 921-927.
6. 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.
7. Archer, H.L., et al. 2006. NTNG1 mutations are a rare cause of Rett syndrome. *Am. J. Med. Genet. A* 140: 691-694.
8. Bisgaard, A.M., et al. 2007. Interstitial deletion of the short arm of chromosome 1 (1p13.1-p21.1) in a girl with mental retardation, short stature and colobomata. *Clin. Dysmorphol.* 16: 109-112.
9. Eastwood, S.L. and Harrison, P.J. 2008. Decreased mRNA expression of netrin G1 and netrin G2 in the temporal lobe in schizophrenia and bipolar disorder. *Neuropsychopharmacology* 33: 933-945.

CHROMOSOMAL LOCATION

Genetic locus: NTNG1 (human) mapping to 1p13.3.

PRODUCT

netrin G1 (h): 293T Lysate represents a lysate of human netrin G1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

netrin G1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive netrin G1 antibodies. Recommended use: 10-20 µl per lane.

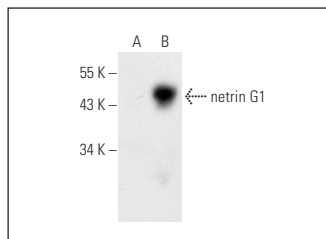
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

netrin G1 (D-2): sc-271774 is recommended as a positive control antibody for Western Blot analysis of enhanced human netrin G1 expression in netrin G1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

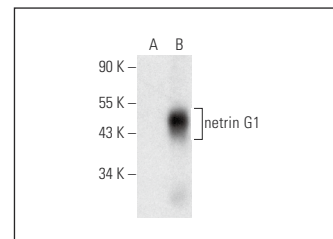
RECOMMENDED SUPPORT REAGENTS

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.

DATA



netrin G1 (D-2): sc-271774. Western blot analysis of netrin G1 expression in non-transfected: sc-117752 (A) and human netrin G1 transfected: sc-114149 (B) 293T whole cell lysates.



netrin G1 (H-4): sc-393665. Western blot analysis of netrin G1 expression in non-transfected: sc-117752 (A) and human netrin G1 transfected: sc-114149 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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