

netrin G1 (D-2): sc-271774

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.

CHROMOSOMAL LOCATION

Genetic locus: NTNG1 (human) mapping to 1p13.3; Ntng1 (mouse) mapping to 3 F3.

SOURCE

netrin G1 (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 47-77 near the N-terminus of netrin G1 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.

netrin G1 (D-2) is available conjugated to agarose (sc-271774 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271774 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271774 PE), fluorescein (sc-271774 FITC), Alexa Fluor® 488 (sc-271774 AF488), Alexa Fluor® 546 (sc-271774 AF546), Alexa Fluor® 594 (sc-271774 AF594) or Alexa Fluor® 647 (sc-271774 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271774 AF680) or Alexa Fluor® 790 (sc-271774 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271774 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

netrin G1 (D-2) is recommended for detection of precursor and mature netrin G1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

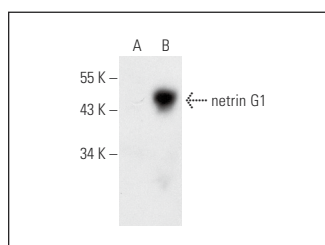
netrin G1 (D-2) is also recommended for detection of precursor and mature netrin G1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for netrin G1 siRNA (h): sc-72290, netrin G1 siRNA (m): sc-149917, netrin G1 shRNA Plasmid (h): sc-72290-SH, netrin G1 shRNA Plasmid (m): sc-149917-SH, netrin G1 shRNA (h) Lentiviral Particles: sc-72290-V and netrin G1 shRNA (m) Lentiviral Particles: sc-149917-V.

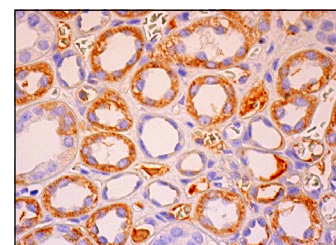
Molecular Weight of netrin G1: 61 kDa.

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

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 (D-2): sc-271774. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Francescone, R., et al. 2021. netrin G1 promotes pancreatic tumorigenesis through cancer-associated fibroblast-driven nutritional support and immunosuppression. *Cancer Discov.* 11: 446-479.
2. Reinhard, L., et al. 2022. netrin G1 is a novel target antigen in primary membranous nephropathy. *J. Am. Soc. Nephrol.* 33: 1823-1831.
3. Raghavan, K.S., et al. 2022. netrin G1+ cancer-associated fibroblasts generate unique extracellular vesicles that support the survival of pancreatic cancer cells under nutritional stress. *Cancer Res. Commun.* 2: 1017-1036.

STORAGE

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

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