

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Netrin-G1a in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 2% cross-reactivity with recombinant mouse Netrin-1, recombinant chicken Netrin-2, and recombinant human Netrin-4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant mouse Netrin-G1a His29-Gly513 Accession # Q8R4G0.2
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Netrin-G1a (Catalog # 1166-NG)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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U.S. Patent # 5,565,331, 6,096,866, 6,017,714, 6,309,638, 6,670,451, and other U.S. and international patents pending.

BACKGROUND

Netrins/UNC-6 (netr: Sanskrit for "one who guides") are a family of laminin-related small proteins that are involved in neurite outgrowth and axon guidance. Netrins bind to the DCC and UNC5 family of receptors to attract or repel axons. Mouse Netrin-G1a is synthesized as a 539 amino acid (aa) precursor with an 18 aa signal sequence, a 399 aa laminin-related region containing an N-terminal laminin globular domain (domain VI) followed by 3 laminin EGF-like repeats, and a 122 aa C domain with a hydrophobic signal for glycosyl phosphatidylinositol (GPI) lipid linkage. Unlike classical Netrins which have a C domain rich in basic aa residues that serves as a heparin binding site, Netrin-G1a is predominantly anchored on the cell surface via GPI linkages. By alternative splicing, at least six isoforms for Netrin-G1 have been identified. All G1a variants (G1b through G1f) are shorter than G1a and lack one or more of the EGF-like domains. Mouse Netrin-G1a shares 27%, 26%, and 31% aa sequence identity with mouse Netrins-1, 3 and 4, respectively. It also shares 60% aa identity with another GPI-anchored mouse Netrin-G2a. Although a human homolog of mouse Netrin-G1a has not been reported, a human G1f that shares 97% aa sequence identity with mouse G1f has been cloned. Netrin-G1 has widespread expression, occurring in olfactory mitral cells, cells of the inferior colliculus (hearing), dorsal thalamus (behavior), and cells of the deep cerebellar nuclei and inferior olive (motion). The G-type Netrins are found only in vertebrates and are suggested to play a role in forming circuits associated with motor activity. Conditioned media containing myc-tagged Netrin-G1a proteins did not bind to cells transiently transfected with the Netrin receptors DCC, UNC5H1, UNC5H2, or UNC5H3 (1-4).

References:

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2. Yu, T.W. and C.I. Bargmann (2001) *Nature Neurosci.* **4**(Suppl):1169.
3. Nakashiba, T. *et al.* (2002) *Mech. Dev.* **111**:47.
4. Nakashiba, T. *et al.* (2000) *J. Neurosci.* **20**:6540.