

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Netrin-G1a in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 1010035
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell, HEK293-derived human Netrin-G1a His29-Gly503 Accession # Q9Y212
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	HEK293 Human Cell Line Transfected with Human Netrin-G1a and U87-MG human glioblastoma cell line

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

NTNG-1, known as Netrin-G1 or alternatively Laminin-1 (Gene name: NTNG1), is a member of the UNC-6/Netrin family of proteins. Human Netrin-G1 is a 55 kDa protein and shares 100% homology with its crab-eating macaque, 98% homology with its rat homolog, and 97% homology with its mouse homolog. Netrin-G1 is synthesized as a 539 amino acid (aa) precursor with a 28 aa signal sequence, a 251 aa laminin-related region containing an N-terminal laminin globular domain (domain VI) followed by 3 laminin EGF-like repeats, a GPI (glycosylphosphatidylinositol) anchor (Ser510), and a C-terminal 28 aa propeptide that is removed in mature Netrin-G1 (1, 3, 4). Netrin-G1 interacts with its ligand, Netrin-G ligand 1 (NGL1) to regulate neuron growth and patterning, axonal subdendritic differentiation, and synapse formation throughout development (1, 2, 4, 6). Abnormal expression of Netrin-G1 via SNPs (single nucleotide polymorphisms) have been implicated in pathogenesis for schizophrenia (5). Netrin-G1 has widespread expression only in vertebrates, 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) (3).

References:

1. Seiradake, E. *et al.* (2011) EMBO J. **30**:4479.
2. Song, Y. *et al.* (2013) J Cell Sci. **126**:4926.
3. Nakashiba, T. *et al.* (2000) J Neuroscience. **20**:6540.
4. Matsukawa, H. *et al.* (2014) J Neuroscience. **34**:15779.
5. Zhu, Y. *et al.* (2011) J Genet. **90**:499.
6. Nishimura-Akiyoshi, S. *et al.* (2007) Neuroscience. **104**:14801.

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