

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived human Netrin-G1a protein
His29-Gly503, with a C-terminal 6-His tag
Accession # Q9Y2I2

N-terminal Sequence Analysis Val19 & His29

Structure / Form Monomer

Predicted Molecular Mass 55 kDa

SPECIFICATIONS

SDS-PAGE 69-76 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human NGL-1/LRRC4C (Catalog # 4899-NR) is coated at 2 µg/mL (100 µL/well), the concentration of Recombinant Human Netrin-G1a that produces 50% optimal binding response is 0.2-1 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

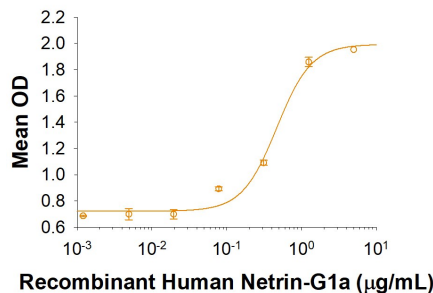
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, ≤ -20 °C under sterile conditions after reconstitution.

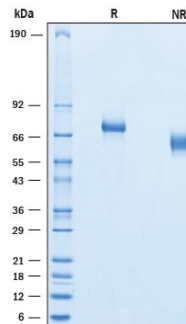
DATA

Binding Activity



When Recombinant Human NGL-1/LRRC4C (Catalog # 4899-NR) is coated at 2 µg/mL, 100 µL/well, Recombinant Human Netrin-G1a (Catalog # 10019-NG) binds with an ED₅₀ of 0.2-1 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human Netrin-G1a was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 69-76 kDa and 55-66 kDa, respectively.

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.