Recombinant Mouse Neogenin Fc Chimera

Catalog Number: 1079-NE

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived

Mouse Neogenin (Ala42-Ile1033) (Asp442-Leu461 del) Accession # NP_032710	IEGRID	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Ala42
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	133 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	155-175 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized Recombinant Mouse Neogenin Fc Chimera at 5 µg/mL (100 µL/well) can bind Recombinant Chicken Netrin-1 (Catalog # 128-N1) with a linear range of 6-400 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/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.** ● 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 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Neogenin is a type I transmembrane protein belonging to the Ig superfamily. It is composed of an extracellular segment containing four Ig-like C2-type domains and six Fibronectin type III domains (1). Neogenin has a molecular weight of approximately 190 kDa, and the extracellular domain of the mouse protein shares 91% and 94% amino acid sequence identity with the human and rat orthologs, respectively (1). Five different isoforms are produced from alternative splicing of mouse *Neo1*. Neogenin is widely expressed in both neuronal and non-neuronal tissues of the developing mouse embryo, and in most tissues in adult mice (2). It is a multifunctional cell-surface receptor that binds to members of the Netrin, Repulsive Guidance Molecule (RGM) and Bone Morphogenetic Protein (BMP) families (3-5). It has also been shown to interact with members of the UNC5 family and in certain instances, associate with CDO as a co-receptor (6-8). Neogenin appears to be involved in the regulation of multiple developmental processes including development of the central nervous system (CNS), myogenesis, angiogenesis, and formation of mammary glands (4, 5, 7-9). During CNS development, Neogenin regulates neural tube closure, neuronal differentiation, and cell survival (4, 5, 7). It also mediates Netrin-1-dependent attraction and RGM-A-dependent repulsion of growing axons (4, 5, 7, 10). Additionally, Neogenin binding to RGM and Netrin proteins regulates cell-cell adhesion, cell migration, tissue organization, and adult neurogenesis (4, 7, 11). Neogenin is thought to be involved in tumorgenesis and cancer cell invasiveness in brain and gastric cancers (12-14).

References:

1. Meyerhardt, J.A. *et al.* (1997) Oncogene **14**:1129.
2. Keeling, S.L. *et al.* (1997) Oncogene **15**:691.
3. Hagihara, M. *et al.* (2011) J. Biol. Chem. **286**:5157.
4. Tian, C. and J. Liu (2013) Mol. Reprod. Dev. **80**:700.
5. Severyn, C.J. *et al.* (2009) Biochem. J. **422**:393.
6. van den Heuvel, D.M. *et al.* (2013) PLoS ONE **8**:e55828.
7. De Vries, M. and H.M. Cooper (2008) J. Neurochem. **106**:1483.
8. Krauss, R.S. *et al.* (2005) J. Cell Sci. **118**:2355.
9. Srinivasan, K. *et al.* (2003) Dev. Cell **4**:371.
10. de Castro, F. (2003) News Physiol. Sci. **18**:130.
11. O'Leary, C.J. *et al.* (2015) Stem Cells **33**:503.
12. Milla, L.A. *et al.* (2014) Int. J. Cancer **134**:21.
13. Akino, T. *et al.* (2014) Cancer Res. **74**:3716.
14. Kim, S.J. *et al.* (2014) Oncotarget **5**:3386.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449