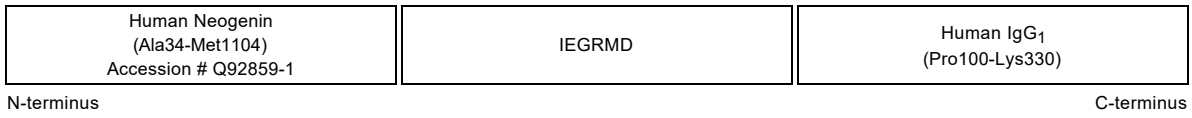
Recombinant Human Neogenin Fc Chimera

Catalog Number: 9699-NE

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human Neogenin protein



N-terminal Sequence Analysis	Ala34
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	144 kDa

SPECIFICATIONS

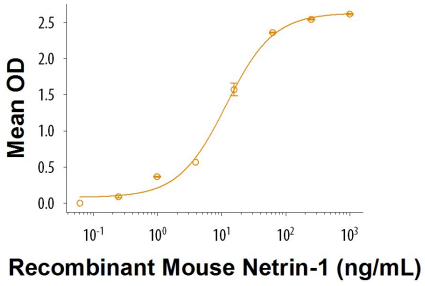
SDS-PAGE	142-164 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Neogenin Fc Chimera is coated at 1 µg/mL (100 µL/well), the concentration of Recombinant Mouse Netrin-1 (Catalog # 1109-N1) that produces 50% optimal binding response is 3-15 ng/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 to -70 °C under sterile conditions after reconstitution.

DATA

Binding Activity



When Recombinant Human Neogenin Fc Chimera (Catalog # 9699-NE) is coated onto a microplate at 1 µg/mL, Recombinant Mouse Netrin-1 (Catalog # 1109-N1) binds with an ED_{50} of 3-18 ng/mL.

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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 human protein shares 91% and 93% amino acid sequence identity with the mouse and rat orthologues, respectively (1). Four different isoforms are produced from alternative splicing of human NEO1. Neogenin is widely expressed in adult human tissues with the highest levels being observed in skeletal muscle and pancreas (1). It is also ubiquitously expressed in both neuronal and non-neuronal tissues of the developing mouse embryo (2). Neogenin 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 tumorigenesis and cancer cell invasiveness in brain and gastric cancers (12-14).

References:

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