Recombinant Human VIGR/GPR126 Fc Chimera

Catalog Number: 10577-GP

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human VIGR/GPR126 protein

Human VIGF/GPR126 (Cys38-Lys437) Accession # AAH75798.1	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Cys38
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	71 kDa

SPECIFICATIONS

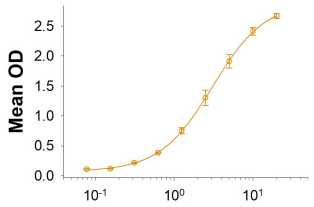
SDS-PAGE	96-111 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Laminin is immobilized at 5 µg/mL (100 µL/well), Recombinant Human VIGR/GPR126 Fc Chimera (Catalog # 10577-GP) binds with an ED_{50} of 1.5-12 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of 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 to -70 °C under sterile conditions after reconstitution.

DATA

Binding Activity



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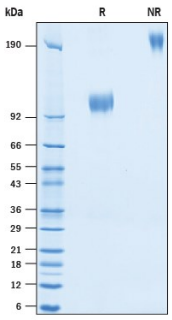
SDS-PAGE



2 µg/lane of Recombinant Human VIGR/GPR126 Fc Chimera Protein (Catalog # 10577-GP) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 96-111 kDa and 180-210 kDa, respectively.

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BACKGROUND

VIGR (Vascular Inducible G Protein-coupled Receptor), also known as ADGRG6, DREG, and GPR126, is a neuronal 7 TM pass (G protein)-coupled receptor (GPCR) involved in myelination and glial and Schwann cell development (1, 2). Human VIGR cDNA encodes a 1221 amino acid (aa) residue membrane protein with a 37 aa signal peptide, a 825 aa extracellular domain (ECD) with 27 potential N-linked glycosylation sites, seven transmembrane segments that span between aa 863 and aa 1113, and a 108 aa residue cytoplasmic domain. Within ECD human VIGR shares 83% aa sequence identity with mouse and rat VIGR. VIGR is essential for the development of diverse organs (1, 2). Type IV collagen, a major constituent of the basement membrane, binds to VIGR and activates its signaling function (3). This interaction stimulated the production of cAMP in rodent Schwann cells, which require VIGR activity to differentiate, and in human embryonic kidney (HEK293) cells expressing exogenous VIGR. Laminin-211 binds a novel laminin-binding domain in VIGR N-terminal fragment between aa 446 and 807 (4). VIGR-Laminin-211 interactions regulate terminal differentiation and myelination by ensuring appropriate levels of cAMP for a given stage of Schwann cell development (4).

References:

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2. Engelstaedter, V. *et al.* (2012) BMC Cancer **12**:600.
3. Taylor-Papadimitriou, J. *et al.* (1999) Biochim. Biophys. Acta **1455**:301.
4. Geng, Y. *et al.* (2012) Front Oncol. **2**:76.
5. Tanida, S. *et al.* (2013) J Biol Chem. **288**:31842.
6. Beatson, R. *et al.* (2016) Nat Immunol. **17**:1273.
7. Piyush, T. *et al.* (2017) Cell Death Differ. **24**:1937.

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