Recombinant Mouse GFRα-2/GDNF Rα-2 Fc Chimera

Catalog Number: 429-FR

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Mouse GFRa-2 (Ser22-Ser441) Accession # Q3UUD8	DIEGRMD	Human IgG_1 (Pro100-Lys330)	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis Ser22

Predicted Molecular Mass 74 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 90 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
Immobilized Recombinant Mouse Neurturin (Catalog # 477-MN) at 1 µg/mL binds Recombinant Mouse GFRα-2/GDNF Rα-2 Fc Chimera with an apparent K_D <5 nM.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >95%, 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

Glial cell line-derived growth factor (GDNF), neurturin (NTN), persephin (PSP) and artemin, distant members of the TGF-β superfamily, are neurotrophic factors for a variety of neuronal populations in the central and peripheral nervous systems. The bioactivities of GDNF and NTN are mediated through a receptor complex composed of the non ligand-binding signaling subunit (c-Ret receptor tyrosine kinase) and either of two ligand binding subunits, GDNF receptor α-1 (GFRα-1, also known as Trn R1) or GFRα-2 (also known as Trn R2). GFRα-1 and -2 are members of a family of at least four cysteine-rich glycosyl-phosphatidylinositol (GPI)-linked cell surface proteins that share conserved placements of many of their cysteine residues. Binding of GDNF or NTN to membrane-associated GFRα-1 or GFRα-2 initiates the association with and activation of the Ret tyrosine kinase.

Mouse GFRα-2 cDNA encodes a 463 amino acid (aa) residue protein with a putative N-terminal 21 aa residue hydrophobic signal peptide. Like other GPI-linked proteins, rat GFRα-2 has a C-terminal hydrophobic region which is preceded by a 3 aa residue (SGS) GPI-binding site. Human GFRα-2 shares 96.5% amino acid identity with mouse GFRα-2. The expression of the various GFRαs are differentially regulated in the central and peripheral nervous system, suggesting complementary roles for the GFRαs in mediating the activities of the GDNF family of neurotrophic factors.

References:

1. Thompson, J. *et al.* (1998) Mol. Cell Neurosci. **11:**117.
2. Trupp, M. *et al.* (1998) Mol. Cell Neurosci. **11:**47.
3. Baloh, R.H. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95:**5801.
4. Baloh, R.H. *et al.* (1998) Neuron **21**:1291.

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USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
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