Recombinant Mouse Ret Fc Chimera

Catalog Number: 482-RT/CF

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Mouse cRet Leu29 - Arg637 (Phe174Ser) Accession # P35546.2	IEGRMD	Human IgG_1 (Pro100 - Lys330)	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis	Leu29
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	95 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	150 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Serial dilution of immobilized rmRet (100 µL/well) was tested for binding with the GDNF-GFRα-1 complex using 4 ng/mL rhGDNF and 1 µg/mL rrGFRα-1/Fc Chimera. The concentration of immobilized Ret that produces 50% of the optimal binding response is found to be approximately 2-5 µg/mL.
Endotoxin Level	<0.10 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

The GDNF family of neurotrophic factors consititute a new family of factors within the TGF-β superfamily. These proteins are potent survival factors for various central and peripheral neurons during development and in the adult animal. The GDNF family members (GDNF, neurturin and persephin) signal through multicomponent receptors that consist of the Ret receptor tyrosine kinase and one of four glycosyl-phosphatidylinositol (GPI)-linked ligand-binding subunits (GFRα-1 - 4). GFRα-1, -2, and -4 are the preferred ligand-binding subunits for GDNF, neurturin and persephin, respectively. To date, the preferred ligand for GFRα-3 has not been identified. The Ret tyrosine-kinase receptor is encoded by the *c-ret* proto-oncogene. Mutations of the *ret* gene have been associated with various human diseases affecting tissues derived from the neural crest, including Hirschsprung's disease, multiple endocrine neoplasia MEN2A and MEN2B, and familial medullary thyroid carcinoma. Mouse Ret cDNA encodes a 1115 amino acid (aa) residue transmembrane tyrosine kinase with a 28 aa residue signal peptide, a 609 aa residue cysteine-rich extracellular domain and a 456 aa residue cytoplasmic domain. A cadherin-related sequence is also present in the extracellular domain of Ret. Human and mouse Ret share 83% amino acid sequence homology (77% homology in the extracellular domain and 93% homology in the cytoplasmic domain). Although Ret does not bind GDNF ligands directly, the extracellular domain of Ret binds the GDNF-GFR-α complex with high affinity and is a potent GDNF antagonist in the presence of soluble GFR-α.

References:

1. Trupp, M. *et al.* (1998) Mol. Cell Neurosci. **11**:47.
2. Enokido, Y. *et al.* (1998) Curr. Biol. **8**:1019.
3. Carlomagno, F. *et al.* (1998) Endocrinology, **139**:3613.

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