

DESCRIPTION

Source *Spodoptera frugiperda*, Sf 21 (stably transfected)-derived
 Leu29-Arg635, with a C-terminal 10-His tag
 Accession # P07949

N-terminal Sequence Analysis Leu29

Predicted Molecular Mass 69 kDa

SPECIFICATIONS

SDS-PAGE 90 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
 Serial dilution of immobilized rhRet (100 µL/well) was tested for binding with the Artemin-GFRα-3 complex using 10 ng/mL rmArtemin and 2 µg/mL rhGFRα-3/Fc Chimera. The concentration of immobilized Ret that produces 50% of the optimal binding response is found to be approximately 2-6 µg/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 with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

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 forms a subfamily within the TGF-β superfamily. These proteins are potent survival factors for various central and peripheral neurons during development and the adult animal. The GDNF family members (GDNF, neurturin, artemin 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, -3 and -4 are the preferred ligand-binding subunits for GDNF, neurturin, artemin and persephin, respectively. 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. 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 (1 - 4).

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.
4. Baloh, R. *et al.* (1998) Neuron **21**:1291.