Recombinant Human Ret His-tag

Catalog Number: 1168-CR/CF

DESCRIPTION

Source	*Spodoptera frugiperda*, *Sf* 21 (stably transfected)-derived human Ret protein Leu29-Arg635, with a C-terminal 10-His tag Accession # P07949
N-terminal Sequence Analysis	Leu29
Predicted Molecular Mass	69 kDa

SPECIFICATIONS

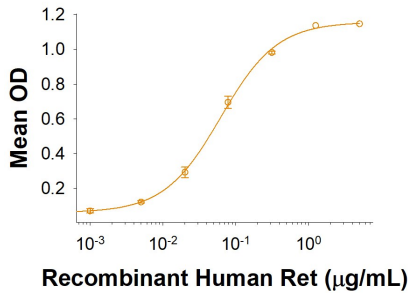
SDS-PAGE	90 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Ret His-tag is immobilized at 1 µg/mL (100 µL/well), Recombinant Human GDNF (Catalog # 212-GD) binds with an ED_{50} of 0.05-0.3 µg/mL in the presence of Recombinant Human GFR alpha -1/GDNF R alpha-1 Fc Chimera (Catalog # 714-GR).
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. 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.

DATA

Binding Activity



When Recombinant Human Ret His-tag (Catalog # 1168-CR) is immobilized at 1 µg/mL (100 µL/well), Recombinant Human GDNF (Catalog # 212-GD) binds with an ED_{50} of 0.05-0.3 µg/mL in the presence of Recombinant Human GFR alpha-1/GDNF R alpha-1 Fc Chimera (Catalog # 714-GR).

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.

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USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449