

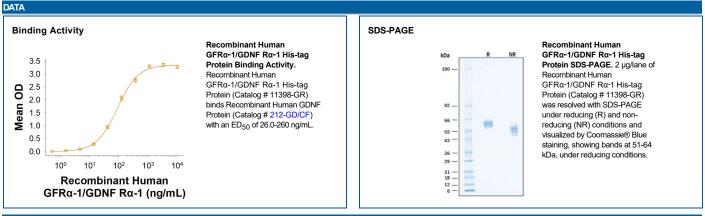
Recombinant Human GFRα-1/GDNF Rα-1 His-tag

Catalog Number: 11398-GR

DESCRIPTION	
Source	Human embryonic kidney cell, HEK293-derived human GFR alpha-1/GDNF R alpha-1 protein Ala19-Ser429, with a C-terminal 6-His tag Accession # P56159.2
N-terminal Sequence Analysis	Ala19
Predicted Molecular Mass	46 kDa

SPECIFICATIONS	
SDS-PAGE	51-64 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human GFRα-1/GDNF Rα-1 His-tag (Catalog # 11398-GR) binds Recombinant Human GDNF Protein (Catalog # 212-GD/CF) with an ED ₅₀ of 26.0-260 ng/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.



BACKGROUND

Glial cell line-derived growth factor (GDNF), neurturin (NTN), artemin and persephin are distant members of the TGF- β superfamily. They function as 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 (GFR α -1) or GFR α -2]. GFR α -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 to membrane-associated GFR α -1 or GFR α -2 initiates the association with and activation of the Ret tyrosine kinase. Soluble GFR α s released enzymatically from the cell surface-associated protein with phosphatidylinositol phospholipase C, as well as recombinantly produced soluble GFR α -1, can also bind with high-affinity to GDNF and trigger the activation of Ret tyrosine kinase. Human GFR α -1 cDNA encodes a 465 amino acid (aa) residue protein with an N-terminal 24 aa residue hydrophobic signal peptide. Like other GPI-linked proteins, human GFR α -1 has a C-terminal hydrophobic region which is preceded by a three aa residue (ASS) GPI-binding site. Human GFR α -1 shares 93% aa identity with rat GFR α -1. The expression of the various GFR α s are differentially regulated in the central and peripheral nervous system, suggesting complementary roles for the GFR α s 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.

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