Human GFRA3 / GFR-alpha-3 Protein (His & Fc Tag)

Catalog Number: **10213-H03H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

GDNFR3; GFRalpha3; Y15110

Protein Construction:

A DNA sequence encoding the human GFRa3 (NP_001487.2) (Met 1-Trp 382) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 80 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to bind mouse ARTN in a functional ELISA.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Asp 32

Molecular Mass:

The recombinant human GFRa3/Fc is a disulfide-linked homodimeric protein. The reduced monomer consists of 599 amino acids and predicts a molecular mass of 67.3 kDa. As a result of glycosylation, the rh GFRa3/Fc monomer migrates as an approximately 80 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

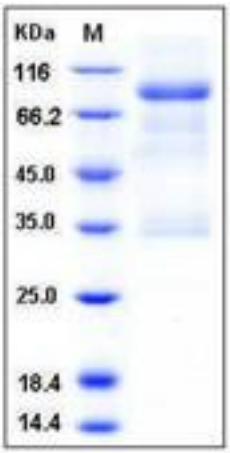
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Glial cell line derived neurotrophic factor (GDNF) Family Receptor Alpha 3 (GFRA3) or GDNFRa3 is a member of the GDNF receptor family. It is a glycosylphosphatidylinositol (GPI)-linked cell surface receptor for both GDNF and NTN, and mediates activation of the RET tyrosine kinase receptor. GFRA3 / GDNFRa3 is a potent survival factor for central and peripheral neurons, and is essential for the development of kidneys and the enteric nervous system. Glial cell line-derived neurotrophic factor (GDNF) and neurturin (NTN) are its binding ligand which are two structurally related, potent neurotrophic factors that play key roles in the control of neuron survival and differentiation. GDNF promotes the formation of a physical complex between GFRA/GDNFRa and the orphan tyrosin kinase receptor Ret, thereby inducing its tyrosine phosphorylation. The RET is a receptor tyrosine kinase representing the signal-transducing molecule of a multisubunit surface receptor complex for the GDNF, in which GFRA / GDNFRa acts as the ligand-binding component. The neurotrophic growth factor artemin binds selectively to GDNF family receptor α3 (GFRA3 / GDNFRa3), forming a molecular complex with the co-receptor RET which mediates downstream signaling. This signaling pathway has been demonstrated to play an important role in the survival and maintenance of nociceptive sensory neurons and in the development of sympathetic neurons.

References

1.Widenfalk J, *et al*. (2000) Neurturin, RET, GFRalpha-1 and GFRalpha-2, but not GFRalpha-3, mRNA are expressed in mice gonads. Cell Tissue Res. 299(3): 409-15.
2.Li J, *et al*. (2009) Autocrine regulation of early embryonic development by the artemin-GFRA3 (GDNF family receptor-alpha 3) signaling system in mice. FEBS Lett. 583(15): 2479-85.
3.Yang C, *et al*. (2006) Distribution of GDNF family receptor alpha3 and RET in rat and human non-neural tissues. J Mol Histol. 37(1-2): 69-77.