Human NRG1-beta 1 Protein (EGF Domain, Fc Tag)

Catalog Number: **11609-H01H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ARIA; GGF; GGF2; HGL; HRG; HRG1; HRGA; MST131; MSTP131; NDF; Neuregulin 1; NRG1-IT2; SMDF; 6030402G23Rik; ARIA; D230005F13Rik; GGF; GGFII; Hgl; HRG; HRGalpha; NDF; SMDF

Protein Construction:

A DNA sequence encoding the EGF-like domain (Thr 176-Lys 246) of human NRG1 isoform beta1 (Q02297-6) was fused with the Fc region of human IgG1 at the N-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 86 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its binding ability in a functional ELISA. 2. Immobilized Rhesus ErbB3 at 2 μg/mL (100 μl/well) can bind human NRG1 (isoform Beta1), The EC_{50} of human NRG1 (isoform Beta1) is 0.58 μg/mL. 3. Immobilized human ErbB3 at 2 μg/mL (100 μl/well) can bind human NRG1 (isoform Beta1), The EC50 of human NRG1 (isoform Beta1) is 0.43 μg/mL.

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: Glu

Molecular Mass:

The recombinant human NRG1（aa176-246）/Fc chimera is a disulfide-linked homodimeric protein. The reduced monomer consists of 331 amino acids and has a calculated molecular mass of 36.7 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh NRG1/Fc monomer is approximately 38 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4

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:

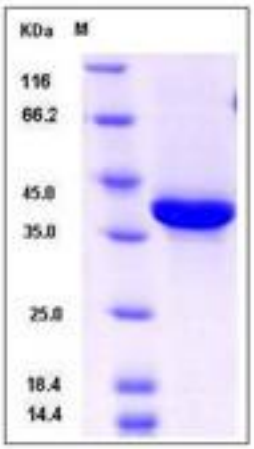
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Neuregulin 1 or NRG1 is one of four proteins in the neuregulin family that act on the EGFR family of receptors. This growth factor was originally identified as a 44-kD glycoprotein that interacts with the NEU / ERBB2 receptor tyrosine kinase to increase its phosphorylation on tyrosine residues. NRG1 is a trophic factor that has been implicated in neural development, neurotransmission, and synaptic plasticity. NRG1 has multiple isoforms that are generated by usage of different promoters and alternative splicing of a single gene. Neuregulin 1 (NRG1) is essential for the development and function of multiple organ systems, and its dysregulation has been linked to diseases such as cancer and schizophrenia. NRG1 is a schizophrenia candidate gene and plays an important role in brain development and neural function. Schizophrenia is a complex disorder, with etiology likely due to epistasis.

References

1.Nicodemus KK, *et al*. (2010) Biological validation of increased schizophrenia risk with NRG1, ERBB4, and AKT1 epistasis via functional neuroimaging in healthy controls. Arch Gen Psychiatry. 67 (10): 991-1001.
2.Tan W, *et al*. (2007) Molecular cloning of a brain-specific, developmentally regulated neuregulin 1 (NRG1) isoform and identification of a functional promoter variant associated with schizophrenia. J Biol Chem. 282 (33): 24343-51.
3.Holmes WE, *et al*. (1992) Identification of heregulin, a specific activator of p185erbB2. Science. 256 (5060): 1205-10.