

Human NRG1-beta 1 Protein (ECD, Fc Tag)

Catalog Number: 11609-H01H2



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

ARIA; GGF; GGF2; HGL; HRG; HRG1; HRGA; MST131; MSTP131; NDF; Neuregulin 1; NRG1-IT2; SMDF

Protein Construction:

A DNA sequence encoding the N-terminal fragment (Ser 2-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: HEK293 Cells

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its binding ability in a functional ELISA. 2. Immobilized human ErbB3-his (cat: 10201-H08H) at 10 µg/mL (100 µl/well) can bind? human NRG1 (aa 2-246)-Fc, The EC₅₀ of human NRG1 (aa 2-246)-Fc is 0.16 µg/mL. 3. Immobilized Rhesus ErbB3-his (cat: 90043-H08H) at 10 µg/mL (100 µl/well) can bind? human NRG1 (aa 2-246)-Fc, The EC₅₀ of human NRG1 (aa 2-246)-Fc is 0.37 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 °C

Predicted N terminal: Glu

Molecular Mass:

The recombinant human NRG1 (aa2-246) /Fc chimera is a disulfide-linked homodimeric protein. The reduced monomer consists of 505 amino acids and has a calculated molecular mass of 55.2 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of the protein is approximately 75 kDa due to glycosylation.

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:

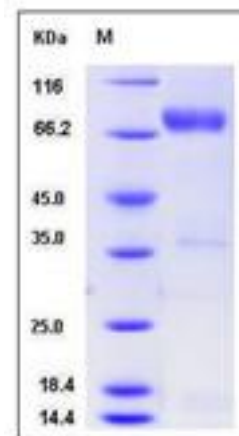
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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.

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