

# Human NRG1-alpha Protein (ECD, His Tag)



Sino Biological  
Biological Solution Specialist

Catalog Number: 13499-H08H

## 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 human NRG1 isoform alpha (Q02297-1) extracellular domain (Ser 20-Lys 241) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 98 % as determined by SDS-PAGE

### Bio Activity:

**1. Measured by its ability to biotinylated Human ErbB4-Fc (cat:10363-H03H) in functional Elisa. 2. Measured by its ability to biotinylated Rhesus ErbB3-His (Cat:90043-K08H) in functional Elisa. 3. Measured by its ability to biotinylated Rhesus ErbB3 (Cat:90043-K02H) in 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 °C

**Predicted N terminal:** Ser 20

### Molecular Mass:

The secreted recombinant human NRG1 consists of 233 amino acids and has a calculated molecular mass of 25.5kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh NRG1 is approximately 40-45 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:

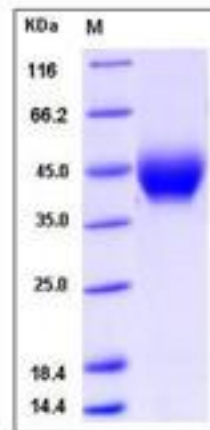
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**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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