# **Human NRG1-beta 1 Protein (ECD)**

Catalog Number: 11609-HNCH



# **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 expressed.

Source: Human

Expression Host: HEK293 Cells

**QC** Testing

Purity: > 90 % as determined by SDS-PAGE

## **Bio Activity:**

Measured in a cell proliferation assay using MCF-7 cells. The  $ED_{50}$  for this effect is typically 2-10 ng/mL.

## **Endotoxin:**

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

Predicted N terminal: Ser 2

## **Molecular Mass:**

The recombinant human NRG1 comprises 245 amino acids and has a predicted molecular mass of 26.8 kDa. As a result of glycosylation, it migrates as an approximately 47.7 kDa band in SDS-PAGE under reducing conditions.

#### 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**

## Stability & Storage:

Samples are stable for twelve months from date of receipt at -20  $^{\circ}$ C to -80  $^{\circ}$ C.

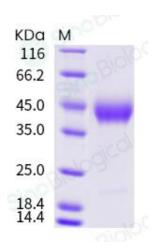
Store it under sterile conditions at  $-20\,^\circ\mathrm{C}$  to  $-80\,^\circ\mathrm{C}$  upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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 the 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.