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:

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

2.Western blot analysis of extracts from serum-starved MCF-7, untreated (-) or treated with neuregulin-1 (Cat # 11609-HNCH) (100 ng/mL, 5 min) using Phospho-HER3/ErbB3 (Tyr1289) rabbit monoclonal Antibody (Cat# 111146-R0004) at 1:2000 dilution (upper), or Anti-HER3/ERBB3 Antibody, Rabbit Polyclonal (Cat# 10201-RP02) at 1:2000 dilution (middle), or Beta-Tubulin Loading Control Antibody, Mouse MAb (Cat# 100109-MM05T) at 1:2000 dilution (lower) (Routinely tested).

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°C to -80°C.

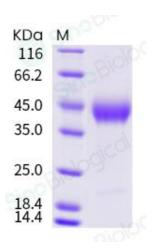
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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 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