

Canine NRG1 / Neuregulin 1 Protein

Catalog Number: 70084-DCCH



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

NRG1

Protein Construction:

A DNA sequence encoding the canine NRG1 (XP_858147.1) extracellular domain (Ser19-Lys240) was expressed with five amino acids (DDDDK) at the C-terminus.

Source: Canine

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA.
Immobilized canine NRG1 at 10 µg/ml (100 µl/well) can bind human ErbB4-Fc (Cat:10363-H02H), The EC₅₀ of human ErbB4-Fc (Cat:10363-H02H) is 0.19-0.43 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 °C

Predicted N terminal: Ser 19

Molecular Mass:

The recombinant canine NRG1 comprises 228 amino acids and has a predicted molecular mass of 24.7 kDa. The apparent molecular mass of the protein is approximately 47 kDa in SDS-PAGE under reducing conditions 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:

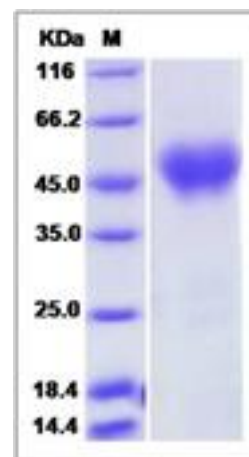
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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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