Datasheet for ABIN2666853

Neuregulin 1 Protein (NRG1) (AA 176-246)

1 Image

Go to Product page

Overview

Quantity:	100 µg
Target:	Neuregulin 1 (NRG1)
Protein Characteristics:	AA 176-246
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Flow Cytometry (FACS)

Product Details

Purity:	> 95 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	Neuregulin 1 (NRG1)
Alternative Name:	NRG1 (NRG1 Products)
Background:	Neuregulin 1 (NRG1) was initially identified in the conditioned medium of a human breast tumor cell line as a protein of 45 kD, which induces the phosphorylation of a tyrosine kinase (ERBB2). The neuregulin family includes four members (NRG1-NRG4) that are encoded from four individual genes. Through differential promoter usage and splicing, these members generate 12

Target Details

	isoforms. The best characterized is neuregulin 1, which includes eight isoforms, all isoforms contain (from N-terminus to C-terminus) an immunoglobulin-like (Ig) domain, a growth factor-like domain (EGF), a transmembrane (TM), and a cytoplasmic domain. Alternative splicing in the EGF-like domain of neuregulin 1 results in α and β isoforms. The EGF-like domain is necessary and sufficient for neuregulin bioactivity. The EGFR family of receptors includes four members (ErbB1 through ErbB4), and neuregulins bind to the ErbB3 and ErbB4 receptors. Neuregulins are released from the membrane by proteolytic cleavage, and this process is required for the binding of the neuregulin derived fragments to ErbB receptors. The neuregulin1-β isoform is predominant in the central nervous system and participates in development, survival, and metabolism in neuron and glial cells. Neuregulin1-β is neuroprotective and attenuates inflammatory responses induced by ischemic stroke in rats, preventing macrophage and microglial infiltration and astrocytic activation. Also, neuregulin1-β blocks the induction of pro-inflammatory and stress genes provoked by ischemia. Neuregulins 1-4 are expressed in approximately 25 % of breast cancer carcinomas and increase breast cancer cell proliferation, increase tumorigenesis, and promote invasive characteristics of cancer cells. In this sense, neuregulin1-β induces MMP-1 and MMP-9 in cancer cell lines.
Molecular Weight:	The 71 amino acid recombinant protein has a predicted molecular mass of approximately 8.2 kDa. The DTT-reduced and non-reduced protein migrate at approximately 11 kDa and 12 kDa respectively by SDS-PAGE. The predicted N-terminal amino acid is Thr.
Pathways:	RTK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Regulation of Muscle Cell Differentiation

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: ED50 = 0.2 - 1 ng/ml, corresponding to a specific activity of 1 - 5 x 106 units/mg, as determined by induction of MCF-7 cell proliferation.
Restrictions:	For Research Use only

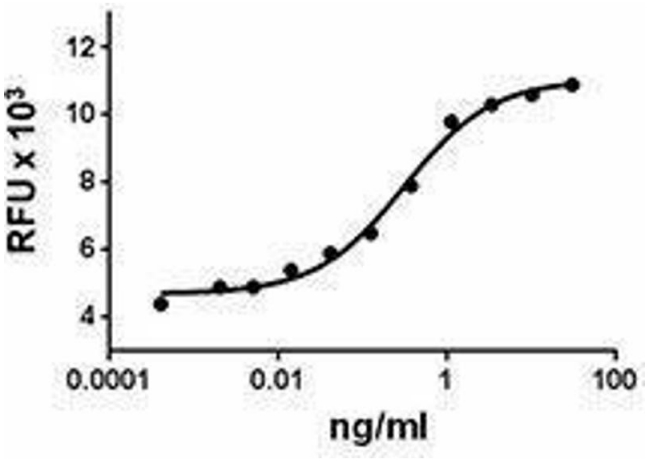
Handling

Format:	Liquid
Reconstitution:	For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in sterile buffer (PBS, HPBS, DPBS, and EBSS) containing carrier protein such as 1 % BSA or HSA. After dilution, the cytokine can be stored between 2 °C and 8 °C for

Handling

	one month or from -20 °C to -70 °C for up to 3 months.
Buffer:	0.22 µm filtered protein solution is in PBS, pH 7.2.
Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for three months, at -20°C for six months, or at -70°C for one year.

Images



ELISA

Image 1.