Recombinant Human Neuregulin 1

Cat. No. NRG1-029H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human NRG1 is a 7.5 kDa polypeptide consisting of only the EGF domain of NRG1 (65 amino acid residues).
Species	Human
Source	E.coli
Description	Neuregulin/Heregulin is a family of structurally related polypeptide growth factors derived from alternatively spliced genes (NRG1, NRG2, NRG3 and NRG4). To date, there are over 14 soluble and transmembrane proteins derived from the NRG1 gene. Proteolytic processing of the extracellular domain of the transmembrane NRG1 isoforms release soluble growth factors. NRG1 contains an Ig domain and an EGF-like domain that is necessary for direct binding to receptor tyrosine kinases erb3 and erb4. This binding induces erb3 and erb4 heterodimerization with erb2, stimulating intrinsic kinase activity, which leads to tyrosine phosphorylation. Although NRG1 biological effects is still unclear, it has been found to promote motility and invasiveness of breast cancer cells which may also involve up-regulation of expression and function of the autocrine motility-promoting factor (AMF).
Biological Activity	The ED50 was determined by the dose-dependent stimulation of the proliferation of human MCF-7 cells is < 0.5 ng/ml, corresponding to a specific activity of > 2 x 106 units/mg.
Molecular Weight	7.5 kDa

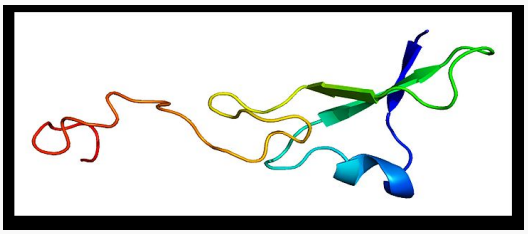
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Form	Lyophilized from 20 mM phosphate buffer, pH 7.0, containing 0.5% HSA and 2% mannitol.
Appearance	Lyophilized protein
Endotoxin Level	< 0.1 ng/μg
Reconstitution	Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 μg/μl. The solution can then be diluted into other aqueous buffers and stored at 4°C for 1 week or -20°C for future use.
Purity	≥98% by SDS-PAGE and HPLC analyses
Storage	The lyophilized protein is best-stored desiccated below 0°C. Reconstituted protein should be stored at working aliquots at -20°C. For long term storage it is recommended to add a carrier protein (0.1% HAS or BSA). Avoid freeze/thaw cycles.
Pathways	ErbB signaling pathway; Glypican 1 network; MicroRNAs in cardiomyocyte hypertrophy

GENE INFORMATION

Gene Name	NRG1 neuregulin 1 [Homo sapiens]
Official Symbol	NRG1
Synonyms	NRG1; neuregulin 1; MST131; GGF; HGL; HRG; NDF; ARIA; GGF2; HRG1; HRGA; SMDF; pro-neuregulin-1, membrane-bound isoform; pro-NRG1; OTHUMP00000225398; OTTHUMP00000225419; OTTHUMP00000225420; OTTHUMP00000225421; OTTHUMP00000225422; OTTHUMP00000225477; OTTHUMP00000225545; OTTHUMP00000230603; OTTHUMP00000230605; glial

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	growth factor; neu differentiation factor; neuregulin 1 type IV beta 3; neuregulin 1 type IV beta 1a; sensory and motor neuron derived factor; heregulin, alpha (45kD, ERBB2 p185-activator); Acetylcholine receptor-inducing activity; Breast cancer cell differentiation factor p45; Heregulin; HRG; Sensory and motor neuron-derived factor
Gene ID	3084
mRNA Refseq	NM_004495
Protein Refseq	NP_004486
MIM	142445
UniProt ID	Q15491
Chromosome Location	8p12
Function	growth factor activity; receptor tyrosine kinase binding; molecular function; ErbB-3 class receptor binding; transcription cofactor activity; transmembrane receptor protein tyrosine kinase activator activity; cytokine activity; protein binding; protein tyrosine kinase activator activity; receptor binding
PDB rendering basedon 1hae.	

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