

Growth Factor Data Sheet

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Neuregulin 1 belongs to a family of structurally related polypeptide growth factors and is produced in numerous isoforms by alternative splicing, which allows it to perform a wide variety of functions. These isoforms include heregulins (HRGs), glial growth factors (GGFs) and sensory and motor neuron-derived factor (SMDF). They all have the EGF-like domain, and can bind to ErbB3 and ErbB4 receptor tyrosine kinases. This binding induces ErbB3 and ErbB4 heterodimerization with ErbB2, stimulating intrinsic kinase activity. This recombinant protein is the EGF-like domain (177-241 a.a.) of isoform 6, the major neuronal isoform. NRG1 isoforms induce the growth and differentiation of epithelial, neuronal, glial, and other types of cells. NRG1 is necessary for development, structural maintenance, and functional integrity of the heart. It is also thought to play a role in synaptic plasticity. Dysregulation of NRG1 has been linked to various cancers and schizophrenia.

Catalog Number	1170-10B
Product Name	NRG1-beta1 (177-241 a.a.), Human Recombinant Human Neuregulin 1 Beta 2 (NRG1-β2) Glial Growth Factor Heregulin-Alpha (HRGA) NEU Differentiation Factor (NDF) Acetylcholine Receptor Inducing Activity Breast Cancer Cell Differentiation Factor p45 Sensory and Motor Neuron-Derived Factor (SMDF)
Source	<i>Escherichia coli</i>
MW	~7.5 kDa (65 amino acids)
Sequence	SHLVKCAEKE KTFCVNGGEC FMVKDLSNPS RYLCKCPNEF TGDRQCNYVM ASFYKHLGIE FMEAE
Accession Number	Q02297
Purity	>97% by SDS-PAGE and HPLC analyses
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by a cell proliferation assay using serum free human MCF-7 cells is less than 0.5 ng/ml, corresponding to a specific activity of >2.0 × 10 ⁶ IU/mg.
Formulation	Sterile filtered white lyophilized powder. Purified and tested for use in cell culture.
Storage/Handling	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage. The reconstituted sample can be apportioned into working aliquots and stored at -80 °C for up to 6 months. Avoid repeated freeze/thaw cycles.
Reconstitution	The sample should be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a siliconized tube using PBS that contains a 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Reconstituted solutions are stable for up to one week at 2-8°C. Stock solutions should be aliquoted and stored at -80°C. Further dilutions should be made in appropriate buffered solutions containing BSA or serum.