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## Product Data Sheet

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Product Name: NRG1 A Human  
 Cat. No.: GP20773  
 Batch No.: 1

### Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Neuregulin-1; Heregulin Alpha; NRG1-A; NRG1 A.		
Amino Acid Sequence	SHLVKCAEKE KTFCVNGGEC FMVKDLSNPS RYLCKCQPGF TGARCTENVP MKVQNQEKAE ELYQK.		
Solubility	It is recommended to reconstitute the lyophilized NRG1-A in sterile 18M-cm H <sub>2</sub> O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.		
Formulation	Lyophilized from a 0.2µm filtered solution in 20mM PB, pH 6.0 and 150mM NaCl.		

### Introduction

Neuregulin/Heregulin is a family of structurally related polypeptide growth factors which are stemmed from alternatively spliced genes (NRG1, NRG2, NRG3 and NRG4). Thus far, there are more than 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. These isoforms contain the heregulins (HRGs), glial growth factors (GGFs) and sensory and motor neuron-derived factor (SMDF). All these factors have the Ig and EGF-like domain, and are able to bind to ErbB3 and ErbB4 receptor tyrosin kinases. This binding stimulates erb3 and erb4 heterodimerization with erb2, promoting intrinsic kinase activity, which results in tyrosine phosphorylation. NRG1 isoforms act to induce the growth and differentiation of epithelial, neuronal, glial, and other types of cells.

### Biological Activity

The ED<sub>50</sub> was determined by the dose-dependent stimulation of the proliferation of human MCF-7 cells is less than 40 ng/ml, corresponding to a specific activity of >

**Caution: Product has not been fully validated for medical applications. For research use only.**

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2.56<sup>±</sup>104 units/mg.

### Stability

Lyophilized NRG1-A although stable at room temperature for 3 weeks, should be stored desiccated below -18°C . Upon reconstitution NRG1-A should be stored at 4°C between 2-7 days and for future use below -18°C . Please prevent freeze-thaw cycles.

### Background

Recombinant Human Neuregulin-1/Heregulin Alpha (EGF Domain) produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 65 amino acids and having a total molecular mass of 7.4kDa. NRG1-A is purified by proprietary chromatographic techniques.

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