

# Recombinant Human Neuregulin 1-alpha EGF Domain (rHuNRG1- $\alpha$ )

## PrimeGene Technical Data Sheet

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<b>Catalog Number:</b>	107-20
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 7.4 kDa, a single non-glycosylated polypeptide chain containing 65 amino acids.
<b>Quantity:</b>	10 $\mu$ g/50 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	SHLVKCAEKE KTFCVNGGEC FMVKDLSNPS RYLCKCQPGF TGARCTENVP MKVQNQEKA ELYQK
<b>Purity:</b>	> 97 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a cell proliferation assay using serum free human MCF-7 cells is less than 40 ng/ml, corresponding to a specific activity of > 2.5 $\times$ 10 <sup>4</sup> IU/mg.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in 20 mM PB, pH 6.0, 150 mM NaCl.
<b>Endotoxin:</b>	Less than 0.1 EU/ $\mu$ g of rHuNRG1- $\alpha$ as determined by LAL method.
<b>Reconstitution:</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq$ -20 °C. Further dilutions should be made in appropriate buffered solutions.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

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### ***Human Neuregulin 1-alpha EGF Domain***

Neuregulin 1 (NRG1) is in humans encoded by the NRG1 gene. It is one of four proteins belonging to the neuregulin family that act on the EGFR family of receptor. Neuregulin 1 is produced in numerous isoforms by alternative splicing, which allows it to perform a wide variety of functions. All NRG1 isoforms contain an EGF like domain ( $\alpha$  or  $\beta$  splice variant that differ in their C terminal region) that is required for their direct binding to the ErbB3 or ErbB4 receptor tyrosine kinases. NRG1 is necessary for cardiac development, structural maintenance, and functional integrity of the heart. NRG1 and its receptor family ErbB can play a beneficial role in the treatment of chronic heart failure (CHF) by promoting survival of cardiac myocytes, improving sarcomeric structure, balancing Ca<sup>2+</sup> homeostasis, and enhancing pumping function.