Neuregulin-1/Heregulin Alpha (EGF Domain), human recombinant (rHuNRG1-A)

Catalog No: 97645
Lot No: XXXXX
Source: *E. coli*
Synonyms: Neuregulin-1, Heregulin Alpha, NRG1-A, NRG1 A

Background

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.

Description

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 7.4 kDa. NRG1-A is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 µm filtered solution in 1 x PBS, pH 6.0.

Solubility

It is recommended to reconstitute the lyophilized NRG1-A in sterile 18 MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

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.

Purity

Greater than 97.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

SHLVKCAEKE KTFCVNGGEC FMVKDLSNPS RYLCKCQPGF TGARCTENVP MKVQNQEKAE ELYQK

Activity

The ED50 was determined by the dose-dependent stimulation of the proliferation of human MCF-7 cells is less than 0.5 ng/ml, corresponding to a specific activity of > 2.0 x 10^6 units/mg.

Usage

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