

Human Neuregulin 1 (beta-1 Isoform) - Purified

Alternate names:	Acetylcholine receptor-inducing activity, Breast cancer cell differentiation factor p45, GGF, Glial growth factor, HGL, HRG, HRGA, Heregulin, NDF, NRG1, Neu differentiation factor, Pro-neuregulin-1 membrane-bound isoform, SMDF, Sensory and motor neuron-derived factor
Catalog No.:	AR01011PU-S
Quantity:	10 µg
Background:	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. HRG1-β1 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 HRG1-β1 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).
Uniprot ID:	Q02297
NCBI:	NP_001153467.1
GeneID:	3084
Species:	Human
Source:	E. coli
Format:	State: Sterile filtered, lyophilized, containing no additives Purity: >98% > 98 % by SDS-PAGE gel and HPLC analyses Endotoxin Level: < 0.1 ng per µg (1EU/µg). Reconstitution: Centrifuge the vial prior to opening. Restore in water to a concentration of 0.1-1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at 4°C for one week or at -20°C for future use.
Description:	Recombinant human Heregulin-β1 (HRG1-β1) is a polypeptide consisting of only the EGF domain of heregulin-β1 (65 amino acid residues). AA Sequence: SHLVKCAEKE KTFVNGGEC FMVKDLSNPS RYLCKCPNEF TGDRQCNYVM ASFYKHLGIE FMEAE Biological Activity: The ED50 was determined by the dose-dependent stimulation of the proliferation of human MCF-7 cells is < / = 0.5 ng/ml. Specific Activity: > / = 2 x 10 ⁶ units/mg Molecular weight: 7.5 kDa

- Storage:** The lyophilized protein is stable at -20°C for one year from date of despatch. Reconstituted Heregulin-β1 is stable for 3 months when stored in working aliquots with a carrier protein at -20°C. Avoid repeated freezing and thawing.
- General Readings:**
1. Wang L, Schulz TC, Sherrer ES, Dauphin DS, Shin S, Nelson AM, et al. Self-renewal of human embryonic stem cells requires insulin-like growth factor-1 receptor and ERBB2 receptor signaling. *Blood*. 2007 Dec 1;110(12):4111-9. Epub 2007 Aug 29. PubMed PMID: 17761519.
 2. Lopez-Bendito G Tangential neuronal migration controls axon guidance: a role for neuregulin-1 in thalamocortical axon navigation. *Cell*.;125(1):127-42 4/7/2006 16615895.