



## Recombinant Human Heregulin beta-1

20200214BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

<b>Cat.-no.:</b>	<b>100-187</b>
Size:	50 µg
Lot. No.:	According to product label

### Scientific Background

<b>Gene-ID (NCBI):</b>	3084
<b>Synonyms:</b>	NRG1; GGF; HGL; HRG; NDF; ARIA; GGF2; HRG1; HRGA; SMDF; MST131

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). Recombinant human Heregulin-β1 (HRG1-β1) is a 7.5 kDa polypeptide consisting of only the EGF domain of heregulin-β1 (65 amino acid residues).

### Sequence

SHLVKCAEKE KTFCVNGGEC FMVKDLSNPS RYLCKCPNEF  
TGDRCQNYVM ASFYKHLGIE FMEAE

### Database References

<b>Protein RefSeq:</b>	NP_039258.1
<b>Uniprot ID:</b>	Q02297
<b>mRNA RefSeq:</b>	NM_013964.3

### Product Specifications

<b>Expressed in</b>	E. coli
<b>Purity</b>	> 98% by SDS-PAGE & HPLC analyses
<b>Endotoxin level</b>	< 0.1 ng /µg of protein (<1EU/µg).
<b>Formulation</b>	lyophilized
<b>Length (aa):</b>	65
<b>MW:</b>	7.5 kDa

**Stability:** The lyophilized protein is stable at room temperature for 1 month and at 4°C for 6 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 12 months at -20°C to -80°C.

**Reconstitution:** Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer (e.g. PBS) containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



**AVOID REPEATED FREEZE AND THAW CYCLES!**

**Biological Activity:** The ED<sub>50</sub> as determined by the dose-dependent stimulation of the proliferation of human MCF-7 cells is ≤ 0.5 ng/ml, corresponding to a specific activity of ≥ 2 x 10<sup>6</sup> units/mg.