

## NRG1 beta 1 Protein, Human, Recombinant (E. coli)

## General Information

Synonyms:	NRG1 $\beta$ ;HGL;NDF;NRG1;HRGA;HRG1-beta 1;Pro-neuregulin-1;HRG1- $\beta$ 1;SMDF;Neuregulin-1 $\beta$ 1;EGF;Heregulin beta-1;GGF;Neuregulin-1 beta 1;NRG1-beta 1;NRG1- $\beta$ 1
Protein Construction:	Ser2-Lys246
Species:	Human
Expression Host:	E. coli
Accession:	AAA58639.1
Molecular Weight:	34 KDa (reducing condition)
AA Sequence:	Ser2-Lys246

## QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 85% as determined by reducing SDS-PAGE. Greater than 85% as determined by SEC-HPLC.
Endotoxin:	< 0.001 ng/ $\mu$ g (0.01 EU/ $\mu$ g) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4.

## Preparation and Storage

## Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

## Stability &amp; Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

## Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

## Protein Background

Pro-neuregulin-1, Neuregulin-1 beta 1 (NRG1) is a single-pass type I membrane protein and belongs to the neuregulin family. It contains 1 EGF-like domain and 1 Ig-like C2-type (immunoglobulin-like) domain. Direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors. The protein concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. The multiple

isoforms perform diverse functions such as inducing growth and differentiation of epithelial, glial, neuronal, and skeletal muscle cells; inducing expression of acetylcholine receptor in synaptic vesicles during the formation of the neuromuscular junction; stimulating lobuloalveolar budding and milk production in the mammary gland and inducing differentiation of mammary tumor cells; stimulating Schwann cell proliferation; implication in the development of the myocardium such as trabeculation of the developing heart. Isoform 10 may play a role in motor and sensory neuron development.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481