

**DESCRIPTION**

**Source** *Spodoptera frugiperda*, Sf 21 (baculovirus)-derived human Neuregulin-1 Isoform SMDF protein  
Leu117-Glu296, with a C-terminal 6-His tag  
Accession # NP\_039253

**N-terminal Sequence Analysis** Leu117

**Predicted Molecular Mass** 20.2 kDa

**SPECIFICATIONS**

**SDS-PAGE** 25-45 kDa, reducing conditions

**Activity** Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. Karey, K.P. *et al.* (1988) *Cancer Research* 48:4083.  
The ED<sub>50</sub> for this effect is 1-5 ng/mL.

**Endotoxin Level** <1.0 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100 µg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

The heregulin (also known as neuregulin) family of cytokines is comprised of multiple secreted or membrane-bound isoforms that are produced from the single *heregulin* gene by alternative splicing and/or usage of different promoters. All heregulin family members share an epidermal growth factor (EGF)-like domain (α- or β-variant) that interacts with the erbB family of tyrosine kinase receptors. NRG1 Isoform SMDF is a heregulin isoform containing a C-terminal EGF-like domain (β-variant) and a unique N-terminal sequence that lacks an Ig-like domain which is present in all other known heregulins. NRG1 Isoform SMDF also lacks a transmembrane domain and the cytoplasmic tail. NRG1 Isoform SMDF expression has been found to be restricted to the nervous system. It is likely that NRG1 Isoform SMDF may play an important role in neural-specific functions.

**References:**

1. Yarden, Y. and D. Wen (1994) in *Guidebook to Cytokines and Their Receptors*, N.A. Nicola, Ed., Oxford University Press, p. 146.
2. Meyer, D. *et al.* (1997) *Development* 124:3575.