Active Neuregulin 1 (NRG1)

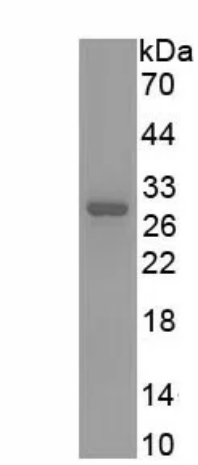
Catalog#:PEH12756

概述（Summary）

别称（Alternative Names）	ARIA; GGF; HGL; HRG; HRGA; NDF; SMDF; Acetylcholine receptor-inducing activity; Glial growth factor; Heregulin; Neu differentiation factor; Sensory and motor neuron-derived factor
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Glu20-His242】
Accession #	Q02297
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	26.0 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in ddH_2O to a concentration of 0.1-0.5 mg/mL. Do not vortex.
背景介绍（References）	Direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors. 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. Binds to ERBB4. Binds to ERBB3. Acts as a ligand for integrins and binds (via EGF domain) to integrins ITGAV:ITGB3 or ITGA6:ITGB4. Its binding to integrins and subsequent ternary complex formation with integrins and ERRB3 are essential for NRG1-ERBB signaling. Induces the phosphorylation and activation of MAPK3/ERK1, MAPK1/ERK2 and AKT1. Ligand-dependent ERBB4 endocytosis is essential for the NRG1-mediated activation of these kinases in neurons.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

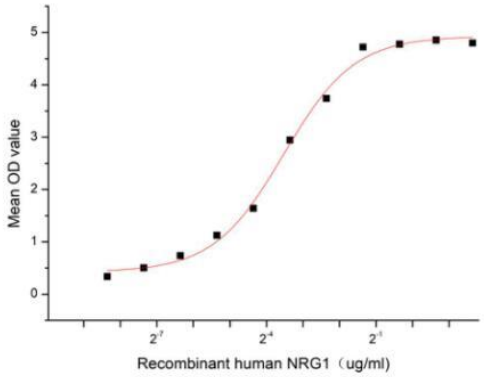


Figure 1. The binding activity of recombinant human NRG1 and recombinant human ERBB2

NRG1 (neuregulin-1) is a membrane glycoprotein that belongs to the neuregulin family and act on the EGFR family of receptors. It mediates cell-cell signaling and plays a critical role in the growth and development of multiple organ systems. It is reported

that by binding to HER3 receptor, NRG1 mediates downstream signaling pathways, leading to multiple effects including growth, proliferation, decreased apoptosis, cellular migration and angiogenesis. Besides NRG1 is direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors and it concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. A functional binding ELISA assay was conducted to detect the interaction of recombinant human NRG1 and recombinant human ERBB2. Briefly, NRG1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to ERBB2-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-NRG1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human NRG1 and recombinant human ERBB2 was shown in Figure 1, the EC50 for this effect is 0.09 ug/mL.

注意事项（Note）

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