Active Nerve Growth Factor (NGF)

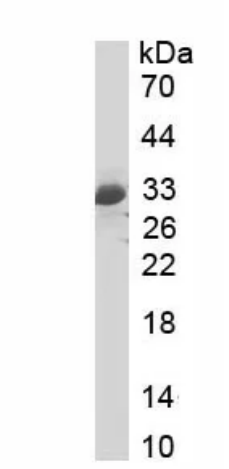
Catalog#:PEH12184

概述（Summary）

别称（Alternative Names）	NGFB; Beta-NGF; HSAN5; NGF-B; Beta-Nerve Growth Factor
纯度（Purity）	Greater than 97% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Glu19-Arg239】
Accession #	P01138
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	29.2 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 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Nerve growth factor is important for the development and maintenance of the sympathetic and sensory nervous systems. Extracellular ligand for the NTRK1 and NGFR receptors, activates cellular signaling cascades to regulate neuronal proliferation, differentiation and survival (Probable). The immature NGF precursor (proNGF) functions as ligand for the heterodimeric receptor formed by SORCS2 and NGFR, and activates cellular signaling cascades that lead to inactivation of RAC1 and/or RAC2, reorganization of the actin cytoskeleton and neuronal growth cone collapse. In contrast to mature NGF, the precursor form (proNGF) promotes neuronal apoptosis (in vitro). Inhibits metalloproteinase-dependent

proteolysis of platelet glycoprotein VI. Binds lysophosphatidylinositol and lysophosphatidylserine between the two chains of the homodimer. The lipid-bound form promotes histamine relase from mast cells, contrary to the lipid-free form.

电泳图（SDS-PAGE image）



Greater than 97% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

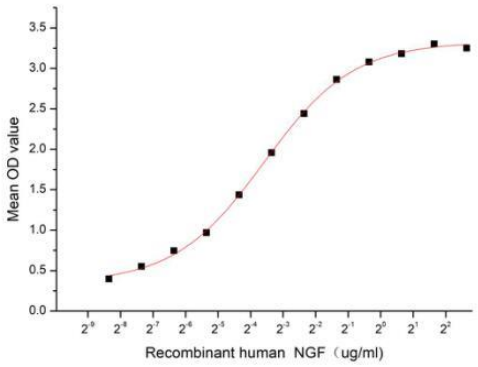
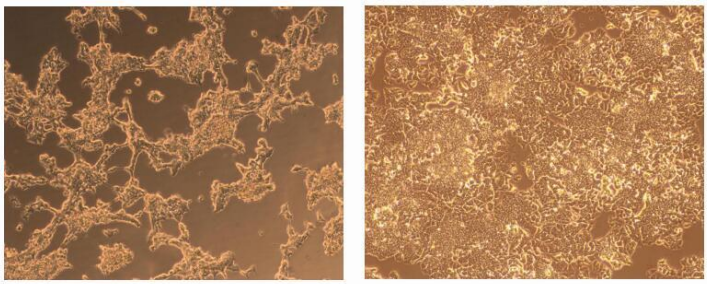


Figure 1. The binding activity of recombinant human NGF and recombinant human CASP3

Nerve growth factor (NGF) is a neurotrophic factor and neuropeptide primarily involved in the regulation of growth, maintenance, proliferation, and survival of certain target neurons. As reported, when the pheochromocytoma cell line PC12 is exposed to nerve growth factor (NGF), the cells respond over a period of a week by ceasing cell division and extending neurites (Greene and Tischler, 1976). The cells were grown in Ham's F12K containing 5% fetal calf serum and 10% horse serum on polylysine or collagen coated plates. When cells reached log phase growth , fresh medium was added together with 10ng/mL of NGF, then cells were observed by inverted microscope everyday. Cell division ceasing and differentiation of PC12 cells after incubation with NGF (10ng/mL) for 6 days was shown in Figure1.Control group which received no NGF displayed no neurite outgrowth and cells multiply rapidly. Nerve Growth Factor (NGF) is the archetypal neurotrophin of a family of polypeptides. It has long occupied a critical role in developmental and adult neurobiology for its many important regulatory functions on the survival, growth and differentiation of nerve cells in the peripheral and central nervous system. A functional binding ELISA assay

was conducted to detect the interaction of recombinant human NGF and recombinant human CASP3. Briefly, NGF was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to CASP3-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-NGF 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 NGF and recombinant human CASP3 was shown in Figure 1, the EC50 for this effect is 0.08 ug/mL.



A B

Figure 1. Effect of NGF on PC12 cells.

(A) PC12 cells cultured in Ham's F12K containing 5% fetal calf serum and 10% horse serum on collagen coated plates, stimulated with 10ng/mL NGF for 6 days;

(B) Unstimulated PC12 cells cultured in Ham's F12K containing 5% fetal calf serum and 10% horse serum on collagen coated plates.

注意事项（Note）

For Research Use Only , Not for Diagnostic Use.