

Human NGF protein, His tag (active)

Cat. No. GTX00097-pro

Applications Functional Assay**Species** Human**Package**

10 µg

Applications

Application Note

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'SF12K 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 10 ng/ml of NGF, then cells were observed by inverted microscope.

NGF is also involved in pathways besides those regulating the life cycle of neurons. Besides, Alpha-2-Macroglobulin (a2M) has been identified as an interactor of NGF, thus a binding ELISA assay was conducted to detect the interaction of recombinant human NGF and recombinant human a2M. Briefly, NGF were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to a2M-coated microtiter wells and incubated for 2h at 37°C. 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, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µl stop solution to the wells and read at 450nm immediately. The binding activity of NGF and a2M was in a dose dependent manner.

Observed MW (kDa) 30/33 kDa.

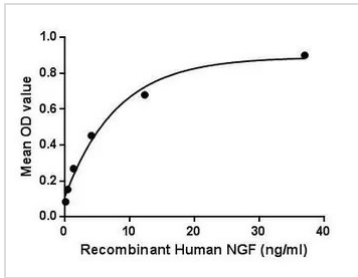
Properties

Form Lyophilized powder**Buffer** Reconstitute with 20mM Tris and 150mM NaCl to 0.1-1.0mg/ml. Do not vortex. Lyophilized from 20mM Tris, 150mM NaCl, 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose.**Preservative** ProClin 300**Storage** For short-term storage (1-2 weeks), store at 4°C. For long-term storage, store at -20°C or below. After reconstitution, keep as concentrated solution. Avoid freeze-thaw cycles.**Region/Sequence** N-terminal His-Tag; Glu19~Arg121+DDDDK+Ser122~Arg239 (NP_002497.2)**Expression System** E. coli**Purity** > 97%**Endotoxin** < 1 EU/µg**Conjugation** Unconjugated**Note** For laboratory use only. Not for any clinical, therapeutic, or diagnostic use in humans or animals. Not for animal or human consumption.

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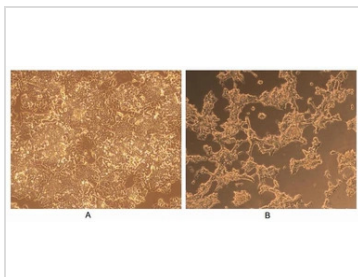
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DATA IMAGES



GTX00097-pro Functional Assay Image

Functional ELISA analysis of GTX00097-pro Human NGF protein (active) which can bind immobilized a2M protein.

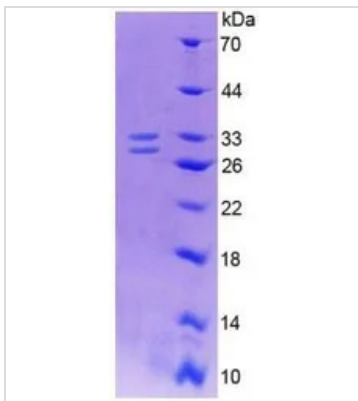


GTX00097-pro Functional Assay Image

Cell differentiation effect of GTX00097-pro Human NGF protein (active).

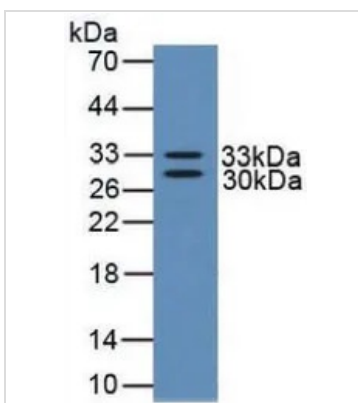
(A) Unstimulated PC-12 cells cultured in Ham's F12K containing 5% fetal calf serum and 10% horse serum on collagen coated plates.

(B) PC-12 cells cultured in Ham's F12K containing 5% fetal calf serum and 10% horse serum on collagen coated plates, stimulated with 10 ng/ml NGF for 6 days.



GTX00097-pro Image

SDS-PAGE analysis of GTX00097-pro Human NGF protein (active).



GTX00097-pro Image

WB analysis of GTX00097-pro Human NGF protein (active).



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