

NGFR Protein, Mouse (HEK293, His)

Cat. No.:	HY-P77101
Synonyms:	NGFR; Gp80-LNGFR; p75 ICD; CD271; TNFRSF16
Species:	Mouse
Source:	HEK293
Accession:	Q9Z0W1 (K32-N253)
Gene ID:	18053
Molecular Weight:	Approximately 43-60 kDa

PROPERTIES

AA Sequence	<pre> K E T C S T G M Y T H S V T F S D V V S A S G E C C K A C N L G E G V A Q P C G A N Q T V C E P C L D S Y G Y Y Q D E E T T E P C K P C T E C L G L Q S M S A P C V E A D D A V C R C P E G T Y S D E A N G R C E A C S V C G V G S G L V F S C Q D K Q N T V C E E C E I P G R W I T R S H V D P C L P C T V C E D T E R Q L R E C T P W A D A E C E D T V T T V M G S S T P P E G S D V T T P S T Q E P E A P P E R D L I A S T V A Q P V V T R G T A D N </pre>
Biological Activity	Measured by its ability to inhibit beta-NGF-dependent proliferation of TF-1 human erythroleukemic cells. The ED ₅₀ for this effect is 3.772 µg/mL in the presence of 2 ng/mL of recombinant human beta-NGF, corresponding to a specific activity is 2.686×10 ² units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Nerve Growth Factor Receptor (NGFR) is expressed not only in nervous tissue, but also in non-neuronal normal and cancer
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cells, such as perivascular cells, dental pulp cells, lymphoidal follicular dendritic cells, basal epithelium of oral mucosa and hair follicles, prostate basal cells and myoepithelial cells^[1].

Human NGFR shares 92.45% aa sequence identity with mouse NGFR protein and 92.42% aa sequence identity with rat NGFR protein.

Nerve Growth Factor Receptor (NGFR) is a type-I transmembrane protein, a typical structure of the TNFR superfamily and devoid of intrinsic catalytic activity. NGFR signaling involves activation of NF- κ B (Rel/NF- κ B transcription factors) and the phosphorylation of the transcription factor c-Jun kinase (JNK), as well as increased production of ceramide, leading to gene transcription or programmed cell death^[2].

NGFR induces p53-dependent apoptosis and cell growth arrest as well as suppressed tumor growth^[3]. The low-affinity nerve growth factor receptor (NGFR) p75^{NTR} induces apoptosis in the absence of nerve growth factor (NGF) binding but enhances neural survival when bound by NGF. NGFR enhances beta-amyloid peptide toxicity^[4]. NGFR signal can induce the subsequent downregulation of melanoma antigens and eventually suppress CTL activation^[5].

REFERENCES

- [1]. Reis-Filho JS, et al. Distribution and significance of nerve growth factor receptor (NGFR/p75^{NTR}) in normal, benign and malignant breast tissue. *Mod Pathol*. 2006 Feb;19(2):307-19.
- [2]. Micera A, et al. Nerve growth factor and tissue repair remodeling: trkA(NGFR) and p75^{NTR}, two receptors one fate. *Cytokine Growth Factor Rev*. 2007 Jun-Aug;18(3-4):245-56.
- [3]. Zhou X, et al. Nerve growth factor receptor negates the tumor suppressor p53 as a feedback regulator. *Elife*. 2016 Jun 10;5:e15099.
- [4]. Rabizadeh S, et al. Expression of the low-affinity nerve growth factor receptor enhances beta-amyloid peptide toxicity. *Proc Natl Acad Sci U S A*. 1994 Oct 25;91(22):10703-6.
- [5]. Furuta J, et al. CD271 on melanoma cell is an IFN- γ -inducible immunosuppressive factor that mediates downregulation of melanoma antigens. *J Invest Dermatol*. 2014 May;134(5):1369-1377.
- [6]. Chung MK, et al. CD271 Confers an Invasive and Metastatic Phenotype of Head and Neck Squamous Cell Carcinoma through the Upregulation of Slug. *Clin Cancer Res*. 2018 Feb 1;24(3):674-683.

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