Revision 1

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Human Neurotrophin-4 (hNT-4)

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MW (kDa):	UniProt ID:	Entrez-Gene Id:
14	#P34130	4909

Background

NT-4 is a member of the structurally related neurotrophin family of proteins, which includes β-NGF, BDNF and NT-3 (1). NT-4 is expressed in a number of cell types and tissues, including neuronal cells, normal breast epithelial cells, melanocytes, activated T cells, and granulocytes (1-5). NT-4 is required for the development of peripheral sensory neurons (6,7). NT-4 may be important for the development of long term memory (8). Increased NT-4 expression in melanoma cells promotes cell proliferation and migration (5). NT-4 is secreted from cells as a precursor protein, which is proteolytically cleaved into the mature form (1). NT-4 signaling is mediated through two distinct receptors, the neurotrophin receptor p75NTR and the Trk tyrosine kinase receptor TrkB. While all neurotrophins bind to the p75NTR receptor, NT-4 preferentially binds to the TrkB receptor (1).

Endotoxin

Less than 0.01 ng endotoxin/1 µg hNT-4.

Purity

>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hNT-4. All lots are greater than 98% pure.

Source / Purification

Recombinant human Neurotrophin-4 (hNT-4) Gly81-Ala210 (Accession #NP_006170) was produced in *E.coli* at Cell Signaling Technology.

Bioactivity

The activity of hNT-4 was assessed by quatification of phospho-TrkB in TrkB transfected NIH/3T3 cells. The observed ED_{50} values are between 1-4 ng/ml.

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Background References

1. Ip, N.Y. et al. (1992) *Proc Natl Acad Sci U S A* 89, 3060-4.
2. Vanhecke, E. et al. (2011) *Clin Cancer Res* 17, 1741-52.
3. Moalem, G. et al. (2000) *J Autoimmun* 15, 331-45.
4. Laurenzi, M.A. et al. (1998) *J Leukoc Biol* 64, 228-34.
5. Truzzi, F. et al. (2008) *J Invest Dermatol* 128, 2031-40.
6. Conover, J.C. et al. (1995) *Nature* 375, 235-8.
7. Liu, X. et al. (1995) *Nature* 375, 238-41.
8. Xie, C.W. et al. (2000) *Proc Natl Acad Sci U S A* 97, 8116-21.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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