

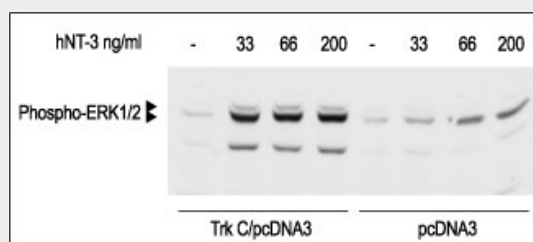
**hNT-3 Protein****Human Neuotrophin-3, Recombinant, E. coli****Catalog # PG10031****Specification****hNT-3 Protein - Product Information****hNT-3 Protein - Additional Information****Storage****-20°C****Precautions**

hNT-3 Protein is for research use only and not for use in diagnostic or therapeutic procedures.

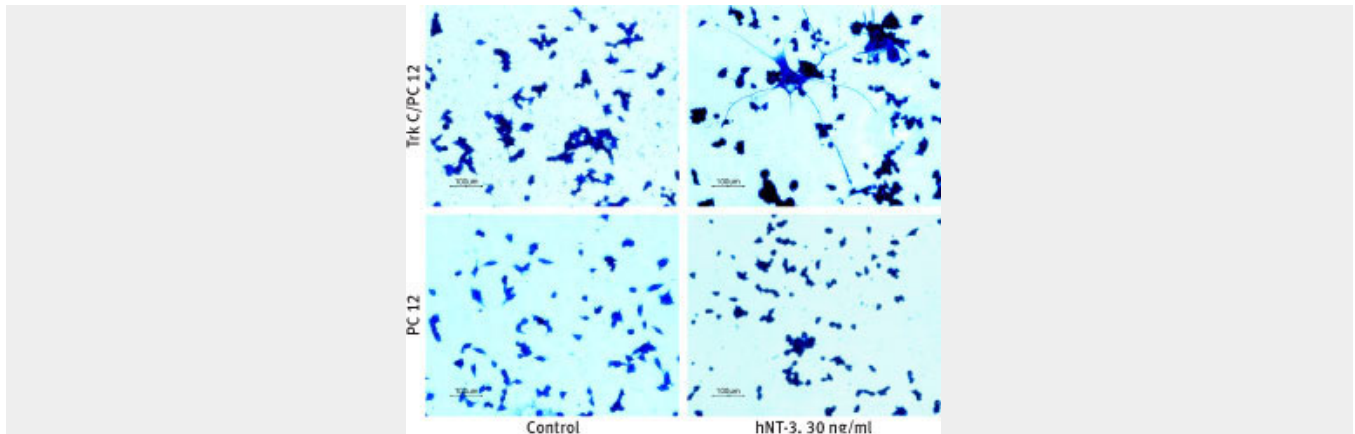
**hNT-3 Protein - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**hNT-3 Protein - Images**

human\_NT-3 - Abgent human NT-3 induces ERK1 2 MAPK phosphorylation in TrkC transfected PC12 cells. Three days post transfection, cells were serum deprived for 3 hours and then challenged with varying concentrations of human NT-3 (#PG10031) for 8 minutes. Cell extracts were prepared, resolved by SDS-PAGE and probed with anti-phospho-ERK1/2.



human\_NT-3 - Abgent human NT-3 mediates neurite outgrowth in TrkC-transfected PC12 cells. One day post-transfection, cells were stimulated with 30 ng/ml human NT-3 (#PG10031). Neurite outgrowth was visualized by light microscopy 5 days after treatment.

### hNT-3 Protein - Background

The neurotrophins ("neuro" means nerve and "trophe" means nutrient) are a family of soluble, basic growth factors which regulate neuronal development, maintenance, survival and death in the CNS and the PNS.<sup>1</sup> Of all the neurotrophins, Neurotrophin-3 (NT-3) shows the highest expression levels during the perinatal development, with most prominent expression levels in the hippocampus, the neocortex and the cerebellum.<sup>2</sup> Release of endogenous NT-3 was observed from cultures of embryonic hippocampus following high K<sup>+</sup> induced depolarization or stimulation with activity dependent neurotrophic factor (ADNF).<sup>3</sup> The structural hallmark of all the neurotrophins is the characteristic arrangement of the disulfide bridges known as the cysteine knot, which has been found in other growth factors such as PDGF.<sup>4</sup> The rat and human forms of NT-3 are 96% homologous. NT-3 has been shown to strengthen synaptic connections to motoneurons in the neonatal rat,<sup>5</sup> to serve as an anti-inflammatory factor to suppress microglial activation,<sup>6</sup> to play a critical role in regulating T helper 1/T helper 2 cell balance<sup>7</sup> and to modify potassium currents in isolated inner hair cells from guinea pig cochlea.<sup>8</sup> The biological effects of NT-3 are mediated by two receptors: TrkC, which is specific for NT-3 and p75, which binds all the neurotrophins.<sup>9</sup>

### hNT-3 Protein - References

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- 2 . Zhou, X.F. and Rush, R.A. (1996) Brain Res. 643,162.
- 3 . Blondel, O. et al. (2000) J. Neurosci. 20,8012.
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- 9 . Teng, K.K. and Hempstead, B.L. (2004) Cell Mol. Life Sci. 61,35.