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Recombinant mouse/rat NT-3 protein (Qk022)

Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Neurotrophin 3 (NT-3) protein is part of the neurotrophin family and plays a crucial role in embryonic development and the maintenance and neuroprotection of the adult nervous system. NT-3 protein is used in cell culture to promote the differentiation and survival of specific neural subpopulations in both the central nervous system and peripheral nervous system such as sensory neurons, cortical neurons, and oligodendrocytes. It is also involved in the maintenance of endothelial cells and myocardial cells.

Qkine mouse/rat NT-3 protein is a non-covalently linked homodimer with a molecular weight of 27.3 kDa, animal origin-free (AOF), carrier-free, tag-free, and non-glycosylated to ensure its purity with exceptional lot-to-lot consistency. It is suitable for the culture of reproducible and high-quality cortical neurons and oligodendrocytes.

Alternative protein names

NTF3, HDNF, NGF-2, NGF2, NT 3, NT3, neurotrophin 3, Nerve growth factor 2, Neurotrophic factor, Qk22

Molecular weight

27.3 kDa (dimer) 13.7 kDa (monomer)

Protein Uniprot number

High purity NT-3 protein (Uniprot: P20181)

Species reactivity

- mouse
- rat
- species similarity:
- human - 100%
- bovine - 98%
- porcine - 100%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in 10 mM HCl (Reconstitution solution A) at >50 µg/ml

Featured applications

- Neural organoid growth and differentiation
- Neural stem cell proliferation and neuronal differentiation
- Neural stem cell research

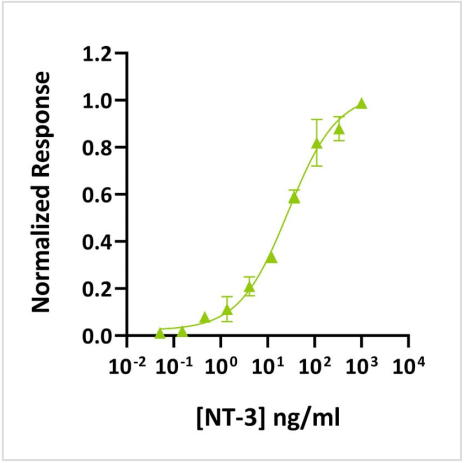
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

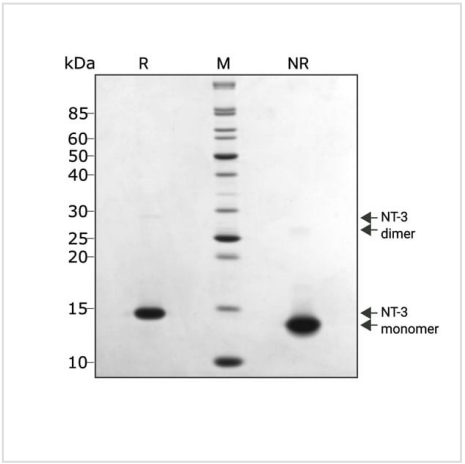
Bioactivity

NT-3 protein bioactivity was measured using a luciferase reporter assay in HEK293T cells co-transfected with the TrkA receptor. Cells were treated in triplicate with a serial dilution of Qk058 for 3 hours. Firefly luciferase activity was measured and normalized to the control Renilla luciferase activity. EC50 = 26.481 ng/ml (0.97 nM).



Purity

NT-3 protein migrates mainly as a single band at 13.7 kDa in non-reducing (NR) conditions and upon reduction (R). Purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced (-β-mercaptoethanol, NR) conditions and stained with Coomassie Brilliant Blue R-250. A faint band visible at 27.3 kDa in NR and R conditions, corresponds to the non-covalently linked NT-3 dimer. No contaminating bands are visible.



Original product page: https://ryan.calliope-alpha.ts.net/product/recombinant-mouse-rat-nt-3-protein-qk022/

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