Technical Data Sheet

Recombinant mouse/rat NT-3 protein

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Lot Specific Information

Lot Number: **Lot Specific***

Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Information

Catalog Number:	**RP047**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Neural organoid growth and differentiation Neural stem cell proliferation and neuronal differentiation Neural stem cell research
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in 10 mM HCl (Reconstitution Buffer A) at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	27.3 kDa (dimer) 13.7 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant mouse/rat NT-3 protein (neurotrophin 3) is a member of the neurotrophin family, alongside NGF, BDNF and NT-4/5, and of the cysteine knot growth factor family, in which six conserved cysteines form three intertwined disulfide bonds; bioactive NT-3 is a non-covalently linked 27.3 kDa homodimer of 13.6 kDa monomers, processed from a 257-residue precursor to a 119-residue mature protein that is identical in mice, rats, humans and pigs. NT-3 signals primarily through TrkC, with the low-affinity p75 neurotrophin receptor and, in certain cells, TrkA and TrkB. It supports sensory neuron growth, survival and connectivity during development, maintains and repairs sensory neurons in the adult, promotes survival and differentiation of peripheral, sensory and spinal motor neurons and oligodendrocytes, and contributes to heart development, and it is studied in neurodegeneration, spinal cord and nerve injury, depression and anxiety. In culture, NT-3 is used with BDNF, GDNF and IGF-1 to differentiate iPSCs into GABAergic and glutamatergic cortical neurons, is required for cortical organoid maturation, and drives oligodendrocyte differentiation with PDGF-AA and IGF-1, making it a key reagent for neuroscience research. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. Species reactivity: mouse, rat. Species similarity: human - 100%, bovine - 98%, porcine - 100%.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

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