

## Recombinant Mouse Neurotrophin-3 (rm NT-3)

**Synonyms:** Neurotrophic factor, Nerve growth factor-2, NGF-2, HDNF.

**Introduction:** NT-3 a member of the neurotrophin family that controls survival and differentiation of mammalian neurons. This protein is closely related to both nerve growth factor and brain-derived neurotrophic factor. It may be involved in the maintenance of the adult nervous system and may affect development of neurons in the embryo when it is expressed in human placenta. NTF3-deficient mice generated by gene targeting display severe movement defects of the limbs. The mature peptide of this protein is identical in all mammals examined including human, pig, rat and mouse.

**Description:** Recombinant mouse NT-3 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 119 amino acids and having a molecular mass of 13.6 kDa. The rm NT-3 is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** Lyophilized from 0.02% TFA.

The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rm NT-3 in sterile H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rm NT-3 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm NT-3 should be stored at 4° C between 2-7 days and for future use below - 18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Purity:** Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE.

**Amino Acid Sequence:** The sequence of the first five N-terminal amino acids was determined and was found to be Tyr-Ala-Glu-His-Lys.

**Biological Activity:** The ED<sub>50</sub> as determined by the dose-dependant induction of choline acetyl transferase in rat basal forebrain primary septal culture was found between 20 - 50 ng/ml.

**Protein content:** Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbeny value of 2.165 as the extinction coefficient for a 0.1% (1 mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

2. Analysis by RP-HPLC, using a calibrated solution of NT-3 as a Reference Standard.

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|               |       |        |          |
|---------------|-------|--------|----------|
| <i>small</i>  | 2 µg  | Cat.N° | 12343332 |
| <i>medium</i> | 10 µg | Cat.N° | 12343333 |

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