Recombinant Rat CNTF Rα

Catalog Number: 558-CR/CF

DESCRIPTION

Source	*Spodoptera frugiperda*, *Sf* 21 (baculovirus)-derived Ala19-Pro346 & Gln23-Pro346 Accession # Q08406
N-terminal Sequence Analysis	Ala19 & Gln23
Predicted Molecular Mass	39.1 kDa

SPECIFICATIONS

SDS-PAGE	52 kDa, reducing conditions
Activity	Measured by its ability to enhance CNTF-dependent proliferation of TF-1 human erythroleukemic cells. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The ED_{50} for this effect is 0.05-0.15 µg/mL in the presence of 1 ng/mL of recombinant rat CNTF.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The high-affinity CNTF receptor complex, which mediates the biological action of CNTF, contains three proteins: the ligand-binding a subunit (CNTF Rα) and the two signal-transducing proteins LIF Rβ and gp130. Whereas LIF Rβ and gp130 are widely expressed in many cell types, the expression of CNTF Rα is restricted to the central and peripheral nervous systems. cDNAs encoding CNTF Rα have been isolated from both human and rat and were shown to share 94% amino acid (aa) sequence identity. Rat CNTF Rα cDNA encodes a 372 amino acid residue precursor protein that apparently has a 22 aa residue signal peptide and five potential glycoslyation sites. CNTF Rα differs from other cytokine receptors in that it lacks transmembrane and cytoplasmic domains and is anchored to cell membranes by a glycosylphosphatidylinositol (GPI) linkage. Similar to other GPI-linked proteins, soluble CNTF receptor α (CNTF sRα) can be released from the cell surface by phosphatidylinositol-specific phospholipase C. CNTF sRα can be released from skeletal muscle in response to peripheral nerve injury and high concentrations of CNTF sRα have also been detected in human cerebrospinal fluid. CNTF sRα binds CNTF in solution and the complex can act on cells that express only LIF Rβ and gp130 but not CNTF Rα.

References:

1. Yancopoulos, G.D. in *Guidebook to Cytokines and Their Receptors*,Nicola, N.A. editor, Oxford University Press, New York, pp137.

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