

Product No. N-4398
Nerve Growth Factor-Beta
(NGF- β)

Human, Recombinant
Expressed in NSO Mouse
Myeloma Cells

Description

NGF 7S is characterized as a non-covalent aggregate containing three types of polypeptide chains (α , β , and γ). NGF- β is isolated from dissociated, homogeneous NGF 7S. The gene encoding the human NGF- β has been localized to chromosome 1 (p22.1) by somatic cell hybridization.^{1,2} Comparison of the mouse and human genes indicates that the two genes are organized with similar intron/exon structure.³

Human recombinant NGF- β is a homodimer of two, 120 amino acid polypeptides. The human protein shares approximately 90% homology at the amino acid level with both mouse and rat NGF- β .

The production of natural NGF- β occurs in epithelial cells,⁴ and the pituitary gland.⁶ Also, nerves of the peripheral nervous system are sources of NGF- β . NGF- β promotes the survival and cholinergic phenotype of basal forebrain cholinergic neurons and stimulates neurite outgrowth of embryonic trigeminal motor neurons *in vitro*.⁴

NGF- β mRNA is detected in hippocampal pyramidal and granule cells,^{7,8} and these cells stain for β -NGF.⁹ NGF- β stimulates mast cell proliferation¹⁰ and acts as a mitogen for T and B lymphocytes.¹¹ IL-1 induces NGF- β production by fibroblasts¹², and prostaglandins and β -adrenergic compounds induce NGF production in astrocytoma cells.¹³

Performance Characteristics

The biological activity of human recombinant NGF- β is measured in a cell proliferation assay using TF-1 cells, a human erythroleukemic cell line.¹⁴ The EC₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Product Information

Expressed in NSO mouse myeloma cells.
Purity: \geq 97% as determined by SDS-PAGE
EC₅₀: 0.15 - 3.0 ng/ml
Package size: 100 μ g/vial
Formulation: Lyophilized from a 0.2 μ m-filtered solution in PBS (pH 7.4).

Carrier Protein: 5 mg bovine serum albumin (BSA)
Sterility: 0.2 μ m filtered, aseptic fill
Endotoxin: \leq 0.1 ng/ μ g NGF- β

Reconstitution and Use

Reconstitute the contents of the vial using 0.2 μ m-filtered PBS containing 0.1% HSA or BSA to a concentration not less than 1 μ g/ml.

Storage

Prior to reconstitution, store at -20°C . After reconstitution, store at $2-8^{\circ}\text{C}$ for a maximum of 3 months. For extended storage, freeze in working aliquots at -70°C or -20°C . Repeated freezing and thawing is not recommended.

References

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