



Product Information

NERVE GROWTH FACTOR-Beta (NGF- β)

Human, Recombinant

Expressed in NSO Mouse Myeloma Cells

Product Number **N 1408**

Product Description

Nerve growth factor (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.^{5,6} 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

Product Profile

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.

Reagents

Lyophilized from a 0.2 μ m-filtered solution in 0.2% acetic acid (pH 3.1), containing 5 mg bovine serum albumin (BSA) as carrier protein.

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/Stability

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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