

Product Information

Brain-Derived Neurotrophic Factor human, recombinant expressed in *E. coli*

Catalog Number **B3795**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonym: BDNF

Product Description

Brain-Derived Neurotrophic Factor (BDNF) is a member of the neurotrophin family of growth factors that includes NGF, NT-3, and NT-4. All neurotrophins have six conserved cysteine residues and share a 55% sequence identity at the amino acid level. BDNF has been shown to enhance the survival and differentiation of several classes of neurons *in vitro*, including neural crest and placode-derived sensory neurons, dopaminergic neurons in the substantia nigra, basal forebrain cholinergic neurons, hippocampal neurons, and retinal ganglial cells.¹ BDNF is expressed within peripheral ganglia and is not restricted to neuronal target fields, raising the possibility that BDNF has paracrine or even autocrine actions on neurons as well as non-neuronal cells.²

The active form of recombinant human BDNF (27 kDa) is a dimer formed by two identical 119 amino acid subunits held together by strong hydrophobic interactions.

The product is lyophilized from a sterile 0.2 μm filtered solution containing 250 μg of bovine serum albumin.

Purity: $\geq 98\%$ (SDS-PAGE and HPLC)

The biological activity is determined by its ability to stimulate the proliferation of rat C6 cells. The ED_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Endotoxin: $<0.1\text{ ng}/\mu\text{g}$ growth factor

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial with water to a concentration of 0.1–1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at $2\text{--}8\text{ }^{\circ}\text{C}$ for up to one week. For extended storage, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$. Repeated freezing and thawing is not recommended.

Storage/Stability

Store the lyophilized product at $-20\text{ }^{\circ}\text{C}$. It remains active for up to a few weeks at room temperature.

Reconstituted product should be stored in working aliquots at $-20\text{ }^{\circ}\text{C}$. Repeated freezing and thawing is not recommended. Do not store in frost-free freezer.

References

1. Jones, K.R., et al., *Cell*, **76**, 989 (1994).
2. Snider, W.D., *Cell*, **77**, 627 (1994).

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