Brain-Derived Neurotrophic Factor human recombinant, expressed in *E. coli* suitable for cell culture

**Catalog Number B3795**
Storage Temperature −20 °C

**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. Like other members of this family, BDNF (brain derived neurotrophic factor) supports neuron proliferation and survival. 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. BDNF mediates its neurotrophic properties by signaling through a high affinity cell surface receptor called gp145/trkB (tropomyosin-related kinase B).

BDNF also plays an important role in vascular function and participates in angiogenesis. It is involved in the pathogenesis of Alzheimer's disease. 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.

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.

**Product** is lyophilized from a sterile 0.2 μm filtered solution containing BSA.

The biological activity is determined by its ability to promote survival of neuroblastoma SH-SY5Y cells, differentiated by retinoic acid treatment, in a serum free medium. The ED50 is defined as the effective concentration of BDNF that elicits a 50% increase in cell survival.

**Purity:** ≥98% (SDS-PAGE)

**Endotoxin:** ≤1.00 EU/µg growth factor

**Precautions and Disclaimer**
This product is for R&D use only, not for drug, household, or other uses. Please consult the 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 2–8 °C for up to one week. For extended storage, freeze in working aliquots at −20 °C. Repeated freezing and thawing is not recommended.

**Storage/Stability**
Store the lyophilized product at −20 °C. It remains active for up to a few weeks at room temperature.

Reconstituted product should be stored in working aliquots at −20 °C. Repeated freezing and thawing is not recommended. Do not store in frost-free freezer.
References