

Recombinant Human Brain-derived Neurotrophic Factor

Cat. No. BDNF-64H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Brain-derived Neurotrophic Factor produced in <i>E. Coli</i> is a homodimer, non-glycosylated, polypeptide chain containing 2 x 119 amino acids and having a total molecular mass of 26,984 Dalton. BDNF is purified by proprietary chromatographic techniques.
Species	Human
Source	E.coli
Description	BDNF promotes the survival of neuronal populations that are all located either in the central nervous system or directly connected to it. Major regulator of synaptic transmission and plasticity at adult synapses in many regions of the CNS. The versatility of bdnf is emphasized by its contribution to a range of adaptive neuronal responses including long-term potentiation (LTP), long-term depression (LTD), certain forms of short-term synaptic plasticity, as well as homeostatic regulation of intrinsic neuronal excitability.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Met-His-Ser-Asp-Pro
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 96.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

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Formulation	The protein was lyophilized after dialysis against 20mM sodium citrate buffer pH=5.
Solubility	It is recommended to reconstitute the lyophilized Brain-derived Neurotrophic Factor in sterile 18MΩ-cm H ₂ O not less than 100g/ml, which can then be further diluted to other aqueous solutions.
Biological Activity	The ED50, calculated by the dose-dependant induction of ACHE (acetylcholine esterase) in rat basal forebrain primary septal culture is 50 ng/ml.
Protein content	BDNF quantitation was carried out by two independent methods: 1.UV spectroscopy at 280 nm using the absorbency value of 1.6 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of Brain-derived Neurotrophic Factor as a Reference Standard.
Storage	Lyophilized BDNF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Brain-derived Neurotrophic Factor should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	BDNF brain-derived neurotrophic factor [Homo sapiens]
Synonyms	BDNF; MGC34632; Abrineurin; neurotrophin; Brain-derived neurotrophic factor;NP_733927.1 5` and 3` partial
Gene ID	627

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mRNA Refseq	NM_001143806
Protein Refseq	NP_001137278
MIM	113505
UniProt ID	P23560
Chromosome Location	11p13
Pathway	Huntington"s disease; MAPK signaling pathway;Neurotrophin signaling pathway
Function	Growth factor activity
PDB rendering based on 1bnd	