


## PRODUCT DESCRIPTION:

Brain-derived neurotrophic factor (BDNF) is a member of the nerve growth factor family of proteins. It binds with high affinity to the TrkB kinase receptor. BDNF has been used to direct human embryonic stem cells (hESC) to neural lineages, and, together with neurotrophin-3 (NT-3) and NT-4, it has been described as a survival factor for hESC<sup>1</sup>. Mature recombinant BDNF has a predicted molecular mass of approximately 13.6 kDa, with 119 amino acids. The amino acid sequence of mature BDNF is identical in all mammals examined.

<b>CYTOKINES</b>	<b>Product Information Sheet</b>		<b>Recombinant Human BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF)</b>
	Version 1.0.0		

## SOURCE:

The DNA sequence encoding the BDNF prepropeptide<sup>2</sup> was inserted in a baculovirus expression vector and expressed in *Sf 21* insect cells.

## PURITY:

Greater than 97% as determined by SDS-PAGE and visualized by silver stain. Endotoxin level is less than 1.0 EU/µg of BDNF, as determined by the LAL method.

## FORMULATION:

Lyophilized from a sterile-filtered solution in 0.1 M Sodium Citrate (pH 3.0) and 0.3 M sodium chloride containing 50 µg of bovine serum albumin per 1 µg of BDNF.

## RECONSTITUTION:

It is recommended that sterile phosphate-buffered saline containing at least 0.1% human serum albumin or bovine serum albumin be added to the vial to prepare a stock solution at no less than 10 µg/mL.

## STABILITY AND STORAGE:

The lyophilized powder is stable for up to 6 months at -20°C to -70°C.

Reconstituted BDNF can be stored under sterile conditions at 2 - 8°C for 1 month or at -20°C to -70°C for 3 months in a **manual defrost freezer** without detectable loss of activity.

**Avoid repeated freezing and thawing.**

## ACTIVITY:

The ED<sub>50</sub> of BDNF is typically 3 - 10 ng/mL, as measured by its ability to stimulate proliferation of the TrkB transfected cell line, Baf-TrkB.

## REFERENCES:

1. Pyle AD, Lock LF, Donovan PJ. Neurotrophins mediate human embryonic stem cell survival. *Nat Biotechnol* 24(3):344-50, 2006
2. Jones KR, Reichardt LF. Molecular cloning of a human gene that is a member of the nerve growth factor family. *Proc Natl Acad Sci USA* 87(20): 8060 - 4, 1990

**See Material Safety Data Sheet for more information.**

**THIS REAGENT IS FOR RESEARCH ONLY.  
IT IS NOT TO BE ADMINISTERED TO HUMANS.**

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