

## DESCRIPTION

|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Human  |
| <b>Specificity</b>        | Detects human BDNF in Western blots.   |
| <b>Source</b>             | Polyclonal Chicken IgY   |
| <b>Purification</b>       | Antigen Affinity-purified from egg yolks   |
| <b>Immunogen</b>          | <i>S. frugiperda</i> insect ovarian cell line <i>Sf</i> 21-derived recombinant human BDNF<br>His129-Arg247<br>Accession # P23560 |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.       |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the Technical Information section on our website.

|   | Recommended Concentration     | Sample  |
|---|-------------------------------|---|
| <b>Western Blot</b>                             | 0.1 µg/mL                     | Recombinant Human BDNF (Catalog # 248-BD)   |
| <b>Immunohistochemistry</b>                     | 5-15 µg/mL                    | Perfusion fixed frozen sections of rat spinal cord  |
| <b>Intracellular Staining by Flow Cytometry</b> | 0.25 µg/10 <sup>6</sup> cells | U-87 MG human glioblastoma/astrocytoma cell line fixed with paraformaldehyde and permeabilized with saponin |

## PREPARATION AND STORAGE

|                                |  |
|--------------------------------|--|
| <b>Reconstitution</b>          | Reconstitute at 0.2 mg/mL in sterile PBS.  |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.  |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## BACKGROUND

Brain-derived neurotrophic factor (BDNF) is a member of the NGF family of neurotrophic factors (also named neurotrophins) that are required for the differentiation and survival of specific neuronal subpopulations in both the central as well as the peripheral nervous system. The neurotrophin family is comprised of at least four proteins including NGF, BDNF, NT-3, and NT-4/5. These secreted cytokines are synthesized as prepropeptides that are proteolytically processed to generate the mature proteins. All neurotrophins have six conserved cysteine residues that are involved in the formation of three disulfide bonds and all share approximately 55% sequence identity at the amino acid level. Similarly to NGF, bioactive BDNF is predicted to be a non-covalently linked homodimer.

BDNF cDNA encodes a 247 amino acid residue precursor protein with a signal peptide and a proprotein that are cleaved to yield the 119 amino acid residue mature BDNF. The amino acid sequence of mature BDNF is identical in all mammals examined. High levels of expression of BDNF have been detected in the hippocampus, cerebellum, fetal eye, and placenta. In addition, low levels of BDNF expression are also found in the pituitary gland, spinal cord, heart, lung, and skeletal muscle. BDNF binds with high affinity and specifically activates the TrkB tyrosine kinase receptor.

## References:

1. Eide, F.F. et al. (1993) *Exp. Neurol.* **121**:200.
2. Snider, W.D. (1994) *Cell* **77**:627.
3. Barbacid, M. (1994) *J. Neurobiol.* **25**:1386.