



Product Data Sheet

Human Recombinant Brain-Derived Neurotrophic Factor (BDNF) Protein

Catalog Number: ORF.GF.BDNF

| Product Details | |
|------------------------|--|
| Product Name | Human Recombinant Brain-Derived Neurotrophic Factor (BDNF) Protein |
| Catalog Numbers | ORF.GF.BDNF-10, ORF.GF.BDNF-50, ORF.GF.BDNF-100, ORF.GF.BDNF-500, ORF.GF.BDNF-1000 |
| Sizes | 10 µg, 50 µg, 100 µg, 500 µg, 1000 µg |
| Species | Human |
| UniProt ID | P23560-1 |
| Product Form | Lyophilized |

| Product Description | Product Image |
|--|---------------|
| <p>Brain-Derived Neurotrophic Factor (BDNF) is a member of the neurotrophin family, essential for the development, survival, and plasticity of neurons in the central and peripheral nervous systems. It binds primarily to the TrkB receptor, triggering intracellular signaling cascades such as MAPK, PI3K, and PLCγ pathways, which regulate neuronal differentiation, synaptic growth, and long-term potentiation—key mechanisms underlying learning and memory.</p> <p>BDNF is initially produced as a precursor protein (proBDNF), which is proteolytically cleaved to generate mature BDNF. Both forms have distinct biological functions: mature BDNF promotes survival and synaptic strengthening, while proBDNF can induce apoptosis or synaptic pruning through p75NTR signaling. BDNF expression is tightly regulated by neuronal activity and is influenced by environmental stimuli such as exercise and stress. Recombinant BDNF is commonly used in vitro and in vivo to study neural development, neurodegenerative diseases, psychiatric disorders, and to support the survival and growth of neurons in culture.</p> | |

For research applications only. Not for diagnostic or therapeutic use.



| Product Specifications | | |
|----------------------------|--|---------------------|
| Protein Description | 119-amino acid mature BDNF protein consisting of residues His129 to Arg247 | |
| Expression System | Available Upon Request | |
| Amino Acid Sequence | HSDPARRGEL SVCDISEWV TAADKKTAVD MSGGTVTVLE KVPVSKGQLK QYFYETKCNP MGYTKEGCRG IDKRHWNSQC RTTQSYVRAL TMSKRRIGW RFIRIDTSCV CTLTIKRGR | |
| Molecular Weight | SDS-PAGE | 13.4 kDa (Expected) |
| Purity | SDS-PAGE | > 95% |
| Endotoxin | LAL | < 1 EU/microgram |
| Bioactivity | Determined by its ability to stimulate TrkB receptor phosphorylation and downstream signaling in relevant cell models. | Biologically Active |

| Product Preparation | |
|------------------------------------|--|
| Shipping Temperature | Ambient |
| Form | Lyophilized |
| Reconstitution Instructions | Reconstitute with sterile deionized water or sterile PBS + 0.1% BSA. |

| Storage and Stability | | |
|---------------------------|----------------|--------------|
| | Temperature | Storage Time |
| Lyophilized Form | -20°C to -80°C | 12 months |
| Reconstituted Form | 2°C to 8°C | 1 month |
| Reconstituted Form | -20°C to -80°C | 3 months |

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