



Human BDNF ELISA Kit (2 plates)

Catalogue No.: BEK-2002-2P

Description: Try our new BDNF Rapid ELISA kit (BEK-2211-2P). Same specificity and sensitivity, but faster!

The human BDNF Kit is a sandwich ELISA. The capture antibody is a monoclonal BDNF antibody pre-coated onto the 96-well strip plates provided in the kit. Human test samples and standards of known BDNF concentration are added to these wells and allowed to complex with the bound BDNF antibody. A biotinylated BDNF antibody is then added. This detection antibody binds to the antigen thus completing the sandwich. After washing, an enzyme Avidin-Biotin-Peroxidase complex (ABC) is added which binds to the second antibody. The peroxidase substrate TMB is added to induce a coloured reaction product. The intensity of this coloured product is directly proportional to the concentration of BDNF present in the samples. The purpose of this kit is the in-vitro quantitative determination of human BDNF in samples such as sera, plasma and cell culture supernates. This kit has been configured for research use only and is not to be used in diagnostic or clinical procedures.

Batch No.: See product labels

Antigen: BDNF belongs to the neurotrophin family and regulates the survival and differentiation of neurons during development. The alterations in BDNF expression induced by various kinds of brain insult including stress, ischemia, seizure activity and hypoglycemia, may contribute to some pathologies such as depression, epilepsy, Alzheimer's, and Parkinson's disease. **FUNCTION:** 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. **SUBUNIT:** Monomers and homodimers. **Binds to** NTRK2/TRKB. **SUBCELLULAR LOCATION:** Secreted protein. **Post Translation Modification (PTM):** The propeptide is N-glycosylated and glycosulfated. **PTM:** Converted into mature BDNF by plasmin (PLG) (By similarity). **DISEASE:** Defects in BDNF are a cause of congenital central hypoventilation syndrome (CCHS); also known as congenital failure of autonomic control or Ondine curse. CCHS is a rare disorder characterized by abnormal control of respiration in the absence of neuromuscular or lung disease, or an identifiable brain stem lesion. A deficiency in autonomic control of respiration results in inadequate or negligible ventilatory and arousal responses to hypercapnia and hypoxemia. CCHS is frequently complicated with neurocristopathies such as Hirschsprung disease that occurs in about 16% of CCHS cases. **SIMILARITY:** Belongs to the NGF-beta family.

Other Names: Brain-derived neurotrophic factor; BDNF; Abrineurin

Accession: P23560 BDNF_HUMAN;

FOR RESEARCH USE ONLY



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Produced in: The standard and immunogen for this kit is recombinant BDNF produced in and purified from an insect cell (sf21) expression system. This protein sequence is identical in human, mouse, rat, and many other species.

Specificity: Human; Mouse; Rat;

Storage: Store at 4°C

Specific References: Morichi S. et al (2016) Examination of neurological prognostic markers in patients with respiratory syncytial virus-associated encephalopathy. *Int J Neurosci.* 2016 Feb;1:1-6

Morichi S. et al (2014) Brain-derived neurotrophic factor and interleukin-6 levels in the serum and cerebrospinal fluid of children with viral infection-induced encephalopathy. *Neurochem Res.* 2014 Nov;39(11):2143-9.

Valvassori SS. et al (2014) Sodium butyrate functions as an antidepressant and improves cognition with enhanced neurotrophic expression in models of maternal deprivation and chronic mild stress. *Curr Neurovasc Res.* 2014;11(4):359-66.

Khan, Zarghona A (2012) Ph.D Thesis, Biochemical Markers as Evidence of the Effects of Environmental Enrichment on Physiological Processes in Huntingtons Disease Patients, Edith Cowan University, Western Australia.

Morichi S. et al (2012) Expressions of brain-derived neurotrophic factor (BDNF) in cerebrospinal fluid and plasma of children with meningitis and encephalitis/encephalopathy. *Int J Neurosci.* 2012 Aug 20

Kit components: The ELISA kit box contains 2 x 96-well pre-coated strip plates, protein standards, detection reagents, substrate buffer and detailed protocols.

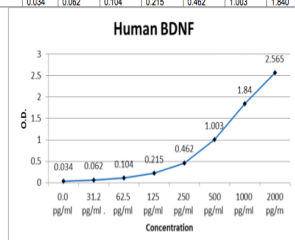
Range: 31.2 pg/ml - 2,000 pg/ml

Sensitivity: < 15 pg/ml

Kit protocol: Please refer to our online product listing for current protocol/MSDS versions.

IX: Typical Standard Curve (for reference only, not to be used for actual data)

| Concentration pg/ml | 0.0 pg/ml | 31.2 pg/ml | 62.5 pg/ml | 125 pg/ml | 250 pg/ml | 500 pg/ml | 1000 pg/ml | 2000 pg/ml |
|------------------------|-----------|------------|------------|-----------|-----------|-----------|------------|------------|
| O.D. | 0.034 | 0.062 | 0.104 | 0.215 | 0.482 | 1.003 | 1.840 | 2.565 |



This standard curve is for demonstration purposes only. A standard curve should be generated for each assay.

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