

## Rat BDNF ELISA Kit (2 plates)

**Catalogue No.:** BEK-2000-2P  
**Description:** Try our new BDNF Rapid ELISA kit (BEK-2211-2P). Same specificity and sensitivity, but faster!

The rat 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. Rat 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 rat BDNF in samples such as sera, plasma, cell lysates 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:** P23363 BDNF\_RAT;

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FOR RESEARCH USE ONLY

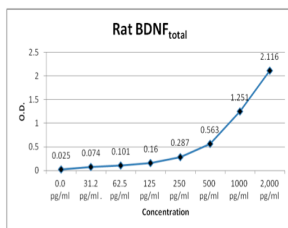
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- Produced in:** The standard and immunogen for this kit is recombinant BDNF produced in and purified from an insect cell (sf21) expression system. This protein sequence is identical in human, mouse, rat, and many other species.
- Specificity:** Human; Mouse; Rat;
- Storage:** Store at 2-8C
- Specific References:** Pietrelli A et al. (2018) Aerobic exercise upregulates the BDNF-Serotonin systems and improves the cognitive function in rats. *Neurobiol Learn Mem.* 2018 May 22. pii: S1074-7427(18)30120-5. Application: Rat brain tissue homogenates.
- 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	2,000 pg/ml
O.D.	0.025	0.074	0.101	0.160	0.287	0.563	1.251	2.116

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



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