

proBDNF Rapid ELISA Kit: Human, Mouse, Rat (2 Plates)

Catalogue No.: BEK-2237-2P

Description: The Biosensis proBDNF Rapid™ enzyme-linked immunosorbent assay (ELISA) Kit is a sandwich ELISA that allows the specific, fast and reliable quantification of proBDNF in less than 4 hours in human serum and plasma (citrate and EDTA), cell culture supernatants, mouse and rat cell lysates and rat brain only if used as directed. Please refer to the kit protocol for specific use instructions for each substrate application, in particular human blood samples.

This ELISA kit consists of a pre-coated monoclonal anti-proBDNF capture antibody, a biotinylated anti-matureBDNF detection antibody and horseradish peroxidase (HRP)-conjugated streptavidin. The addition of a substrate (3,3',5,5'-tetramethylbenzidine, TMB) yields a colored reaction product which is directly proportional to the concentration of proBDNF present in samples and protein standards. A proBDNF positive control (QC sample) is provided to assure consistent assay performance.

This proBDNF ELISA kit employs a recombinant, cleavage-resistant human proBDNF standard produced in mammalian cells by Biosensis and validated against externally available proBDNF proteins.

Note that accurate proBDNF quantification in human serum and plasma requires the addition of Heterophilic Antibody Blocker BL-004-500 provided in the kit, and available for purchase separately.

This ELISA kit has not been tested for other applications. It has been configured for research use only and is not to be used for diagnostic or clinical procedures.

Related products: BL-004-500, Heterophilic antibody blocker: Sample diluent additive for accurate quantification of proBDNF in human serum and plasma (EDTA and Citrate). BEK-2211-2P: Mature BDNF Rapid™ ELISA Kit

Batch No.: Refer to the product label.

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 Disease, and Parkinson's disease. **FUNCTION:** BDNF promotes the survival of neuronal populations that are all located either in the central nervous system or directly connected to it. BDNF is also a 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) . **DISEASE:** Defects in

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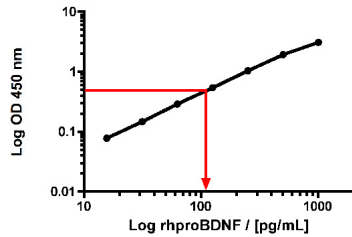
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BDNF are a cause of congenital central hypoventilation syndrome (CCHS); also known as congenital failure of autonomic control or Ondine curse. CCHS is a rare disorder characterized by abnormal control of respiration in the absence of neuromuscular 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;
Specificity:	Detects human, mouse and rat proBDNF. The capture antibody used in this ELISA kit binds to an epitope within the pro-domain of proBDNF. Thus, this ELISA detects the full length form of proBDNF and does not quantify mature BDNF. Whether this ELISA kit can detect truncated BDNF is unknown at present.
Cross-reactivity:	Mature BDNF cross-reactivity was assessed by spiking 28 kDa mature BDNF protein obtained from WHO (www.nibsc.org) into a 1/5 diluted human serum sample at 5 ng/mL, which represents a BDNF concentration level of 25 ng/mL in undiluted, normal human serum. Cross-reactivity of mature BDNF was < 0.3% (w/v), or < 0.1% in molar concentration. The assay antibodies do not cross-react with nerve growth factor (NGF), neurotrophin-3 (NT-3) or NT-4/5.
Storage:	Store at 2-8C
Expiry Date:	12 months from purchase.
Specific References:	Fukumoto M et al. (2019) Induction of brain-derived neurotrophic factor in enteric glial cells stimulated by interleukin-1 β via a c-Jun N-terminal kinase pathway. J. Clin. Biochem. Nutr. [Epub ahead of print]. Application: Human culture supernatant.
Kit components:	The ELISA kit box contains 2 x 96-well pre-coated strip plates, protein standards, QC sample, detection reagents, heterophilic antibody blocker, wash and sample buffers, substrate buffer and detailed protocols.
Range:	15.6 - 1000 pg/mL
Sensitivity:	Typical limit of detection (LOD) for proBDNF is 6 pg/mL determined as 150% of the blank value.
Kit protocol:	Please refer to our online product listing for current protocol/MSDS versions.
MSDS:	Please refer to our online product listing for current protocol/MSDS versions.

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This standard curve generated in our laboratories is for demonstration purposes only, but can be used as a guide to expected performance. A standard curve should be generated for each assay.

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