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Datasheet for ABIN411257

BDNF ELISA Kit

1 Image

15 Publications

Overview

Quantity:	96 tests
Target:	BDNF
Binding Specificity:	AA 129-247
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	31.2-2000 pg/mL
Minimum Detection Limit:	31.2 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human BDNF
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Plasma (citrate)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: sf21 Immunogen sequence: H129-R247
Specificity:	Expression system for standard: sf21 Immunogen sequence: H129-R247
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Predicted Reactivity: Bovine,Horse,Monkey,Rabbit

Sensitivity: <2pg/mL

Material not included: Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

Target Details

Target: BDNF

Alternative Name: BDNF ([BDNF Products](#))

Background: Protein Function: During development, promotes the survival and differentiation of selected neuronal populations of the peripheral and central nervous systems. Participates in axonal growth, pathfinding and in the modulation of dendritic growth and morphology. 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. .

Background: Brain-derived neurotrophic factor(BDNF) is a prosurvival factor induced by cortical neurons that is necessary for survival of striatal neurons in the brain. It is a secreted protein with the molecular weight of 27.8 kDa, consisting of 247 amino acids. It is known to promote neuronal survival and differentiation. BDNF shares substantial amino acid sequence identity with nerve growth factor(NGF). BDNF and neurotrophin-3(NT-3) are two recently cloned neurotrophic factors that are homologous to NGF. mRNA products of the BDNF and NT-3 genes are detected in the adult human brain, suggesting that these proteins are involved in the maintenance of the adult nervous system. BDNF and other neurotrophins are critically involved in long-term potentiation(LTP). BDNF-mediated LTP is induced postsynaptically. BDNF has trophic effects on serotonergic(5-HT) neurons in the central nervous system. BDNF has an essential maintenance function in the regulation of anxiety-related behavior and in food intake through central mediators in both the basal and fasted state. It plays a role in treating breathing disorders such as respiratory insufficiency after spinal injury. The mature form of BDNF is identical in all mammals examined, and the gene encoding human BDNF to chromosome 11, band p13.

Synonyms: Brain-derived neurotrophic factor,BDNF,Abrineurin,BDNF,

Full Gene Name: Brain-derived neurotrophic factor

Target Details

Cellular Localisation: Secreted.

Gene ID: 627

UniProt: [P23560](#)

Pathways: [RTK Signaling](#), [Synaptic Membrane](#), [Feeding Behaviour](#), [Dicarboxylic Acid Transport](#), [Regulation of long-term Neuronal Synaptic Plasticity](#)

Application Details

Application Notes: Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.

Comment: Sequence similarities: Belongs to the NGF-beta family.
Tissue Specificity: Brain. Highly expressed in hippocampus, amygdala, cerebral cortex and cerebellum. Also expressed in heart, lung, skeletal muscle, testis, prostate and placenta. .

Plate: Pre-coated

Protocol: human BDNF ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for BDNF has been precoated onto 96-well plates. Standards(sf21, H129-R247) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for BDNF is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human BDNF amount of sample captured in plate.

Assay Procedure: Aliquot 0.1 mL per well of the 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL human BDNF standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma (heparin, EDTA, citrate) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human BDNF standard solution and each sample be measured in duplicate.

Assay Precision:

- Sample 1: n=16, Mean(pg/ml): 113, Standard deviation: 3.96, CV(%): 3.5
- Sample 2: n=16, Mean(pg/ml): 425, Standard deviation: 17.85, CV(%): 4.2
- Sample 3: n=16, Mean(pg/ml): 1278, Standard deviation: 62.62, CV(%): 4.9,
- Sample 1: n=24, Mean(pg/ml): 197, Standard deviation: 14.18, CV(%): 7.2

Application Details

- Sample 2: n=24, Mean(pg/ml): 594, Standard deviation: 44.55, CV(%): 7.5
- Sample 3: n=24, Mean(pg/ml): 1306, Standard deviation: 103.17, CV(%): 7.9

Restrictions: For Research Use only

Handling

Handling Advice: Avoid multiple freeze-thaw cycles.

Storage: -20 °C, 4 °C

Storage Comment: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

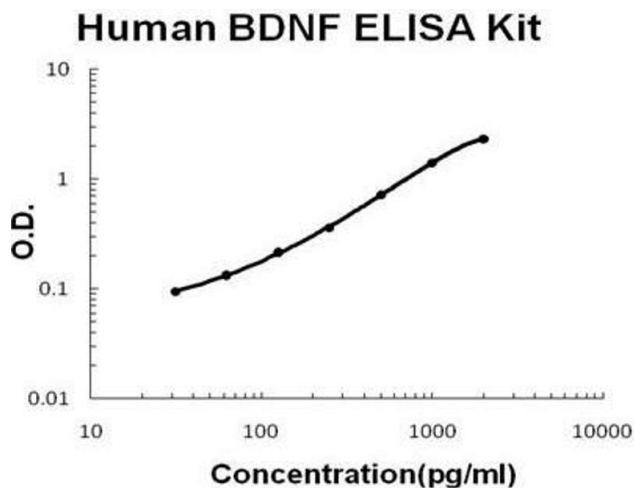
Expiry Date: 12 months

Publications

Product cited in: Wang, Lee, Chou, Yang, Wei, Chen, Yao, Hsu, Zhu, Ying, Ye, Wang, Lim, Xia, Ko, Liu, Liu, Wu, Wang, Li, Prakash, Katz, Kang, Kim, Fleming, Fogelman, Javle, Maitra, Hung: "Angiogenin/Ribonuclease 5 Is an EGFR Ligand and a Serum Biomarker for Erlotinib Sensitivity in Pancreatic Cancer." in: **Cancer cell**, Vol. 33, Issue 4, pp. 752-769.e8, (2019) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

Images



ELISA

Image 1. Human BDNF PicoKine ELISA Kit standard curve