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Datasheet for ABIN921110

TRKB ELISA Kit

1 Image

Overview

Quantity:	96 tests
Target:	TRKB (NTRK2)
Binding Specificity:	AA 32-429
Reactivity:	Mouse
Method Type:	Sandwich ELISA
Detection Range:	93.8-6000 pg/mL
Minimum Detection Limit:	93.8 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Mouse trkB
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Cell Lysate, Tissue Homogenate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: C32-H429
Specificity:	Expression system for standard: NSO,C32-H429
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Sensitivity:	<5pg/mL

Product Details

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: TRKB (NTRK2)

Alternative Name: NTRK2 ([NTRK2 Products](#))

Background: Protein Function: Receptor tyrosine kinase involved in the development and the maturation of the central and the peripheral nervous systems through regulation of neuron survival, proliferation, migration, differentiation, and synapse formation and plasticity. Receptor for BDNF/brain-derived neurotrophic factor and NTF4/neurotrophin- 4. Alternatively can also bind NTF3/neurotrophin-3 which is less efficient in activating the receptor but regulates neuron survival through NTRK2. Upon ligand-binding, undergoes homodimerization, autophosphorylation and activation. Recruits, phosphorylates and/or activates several downstream effectors including SHC1, FRS2, SH2B1, SH2B2 and PLCG1 that regulate distinct overlapping signaling cascades. Through SHC1, FRS2, SH2B1, SH2B2 activates the GRB2-Ras-MAPK cascade that regulates for instance neuronal differentiation including neurite outgrowth. Through the same effectors controls the Ras-PI3 kinase-AKT1 signaling cascade that mainly regulates growth and survival. Through PLCG1 and the downstream protein kinase C-regulated pathways controls synaptic plasticity. Thereby, plays a role in learning and memory by regulating both short term synaptic function and long-term potentiation. PLCG1 also leads to NF-Kappa-B activation and the transcription of genes involved in cell survival. Hence, it is able to suppress anoikis, the apoptosis resulting from loss of cell-matrix interactions. Isoform GP95-TRKB may also play a role in neurotrophin-dependent calcium signaling in glial cells and mediate communication between neurons and glia. .

Background: TrkB receptor also known as TrkB tyrosine kinase or BDNF/NT-3 growth factors receptor or neurotrophic tyrosine kinase, receptor, type 2 is a protein that in humans is encoded by the NTRK2 gene.[1] TrkB is the high affinity catalytic receptor for several "neurotrophins", which are small protein growth factors that induce the survival and differentiation of distinct cell populations. The TrkB receptor is part of the large family of receptor tyrosine kinases. A "tyrosine kinase" is an enzyme which is capable of adding a phosphate group to certain tyrosines on target proteins, or "substrates".Soppet et al. [2] demonstrated that the gp145 gene product of the TRKB gene is rapidly phosphorylated on tyrosine residues upon exposure to BDNF and NTF3. The standard product used in this kit is recombinant TrkB, a 49.5KDa

Target Details

glycoprotein, C32-H439.

Synonyms: BDNF/NT-3 growth factors receptor,2.7.10.1,GP145-TrkB/GP95-TrkB,TrkB,Neurotrophic tyrosine kinase receptor type 2,TrkB tyrosine kinase,Ntrk2,Trkb,

Full Gene Name: BDNF/NT-3 growth factors receptor

Cellular Localisation: Cell membrane, Single-pass type I membrane protein . Endosome membrane, Single-pass type I membrane protein . Internalized to endosomes upon ligand-binding.

Gene ID: 18212

UniProt: [P15209](#)

Pathways: [RTK Signaling](#), [Neurotrophin Signaling Pathway](#), [cAMP Metabolic Process](#), [Skeletal Muscle Fiber Development](#), [Feeding Behaviour](#), [Dicarboxylic Acid Transport](#)

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 protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.
Tissue Specificity: Widely expressed in the central and peripheral nervous system. The different forms are differentially expressed in various cell types. Isoform GP95-TRKB is specifically expressed in glial cells.

Plate: Pre-coated

Protocol: mouse TrkB ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for TrkB has been precoated onto 96-well plates. Standards (NSO,C32-H429) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for TrkB 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 mouse TrkB amount of sample captured in plate.

Assay Procedure: Aliquot 0.1 mL per well of the 6000pg/mL, 3000pg/mL, 1500pg/mL, 750pg/mL, 375pg/mL, 187.5pg/mL, 93.8pg/mL mouse trkB 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

Application Details

properly diluted sample of mouse cell culture supernates, cell lysates or tissue lysates to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each mouse trkB standard solution and each sample is measured in duplicate.

Assay Precision:	<ul style="list-style-type: none">• Sample 1: n=16, Mean(pg/ml): 366, Standard deviation: 15.7, CV(%): 4.3• Sample 2: n=16, Mean(pg/ml): 2864, Standard deviation: 143.2, CV(%): 5• Sample 3: n=16, Mean(pg/ml): 5147, Standard deviation: 329.4, CV(%): 6.4,• Sample 1: n=24, Mean(pg/ml): 465, Standard deviation: 25.11, CV(%): 5.4• Sample 2: n=24, Mean(pg/ml): 3254, Standard deviation: 198.5, CV(%): 6.1• Sample 3: n=24, Mean(pg/ml): 5225, Standard deviation: 386.7, CV(%): 7.4
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Restrictions:	For Research Use only
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Handling

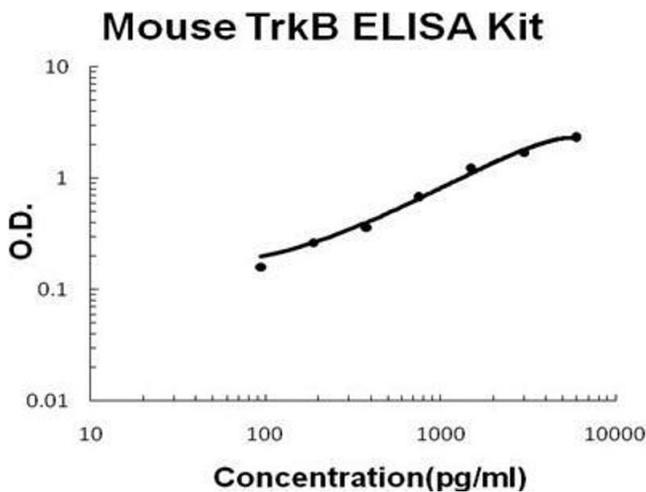
Handling Advice:	Avoid multiple freeze-thaw cycles.
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Storage:	-20 °C,4 °C
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Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
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Expiry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



ELISA

Image 1. Mouse TrkB PicoKine ELISA Kit standard curve