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Rabbit Anti-TrkB antibody

SL0288R

Product Name:	TrkB
Chinese Name:	酪氨酸激酶B抗体
Alias:	TrkB; Tyrosine Receptor Kinase B; Tyrosine kinase,Pyk2; BDNF tropomyosine receptor kinase B; BDNF/NT 3 growth factors receptor; BDNF/NT-3 growth factors receptor; Brain derived neurotrophic factor receptor; GP145 TrkB; GP145-TrkB; GP145-TrkB/GP95-TrkB; GP95 TrkB; Neurotrophic tyrosine kinase receptor type 2; Neurotrophin receptor tyrosine kinase type 2; NTRK 2; Ntrk2; NTRK2_HUMAN; Obesity, hyperphagia, and developmental delay, included; RATTRKB1; Tkrb; Trk B; Trk-B; TRKB; TrkB tyrosine kinase; TRKB1; tyrosine kinase receptor B; Tyrosine receptor kinase B.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	90kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human Trk B:32-120/822
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed

Product Detail:	The Trk family of nerve growth factor receptors includes Trk A(also referfed to as Trk A gp140),Trk B and Trk C. The prototype member of this gene family, Trk A, encodes a 140 kDa cell surface receptor, gp140, the expression of which is restricted in vivo to neurons of the sensory spinal and cranial gangliaof neurocrest origin. Nerve growth factor (NGF) stimulates tyrosine phosphorylation of Trk gp 140 in neural cell lines and in embryonic dorsal root ganglia. By comparison, BDNF and to a lesser extent, NT-3, but not NGF, can induce tyrosine phophorylayion of Trk B gp 145. The third member of the Trk receptor family, Trk C incodes a 140 kDa protein, Trk C gp140, that is preferentially expressed in brain tissue and primarily functions as a receptor for NT-3.An additional component of the Trk receptor complex, NGFR p175, binds to neurotrophic factors with low affinity but is required for efficient signaling. NGFR p175 accelerates Trk activation and may recruit downstream dffector molecules to the ligand-bound receptor complex. **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. May also play a role in neutrophin-dependent calcium signaling in glial cells and mediate communication between neurons and glia. **Subunit:** Exists in a dynamic equilibrium between monomeric (low affinity) and dimeric (high affinity) structures. Interacts (phosphorylated upon activation by BDNF) with SHC1; mediates SHC1 phosphorylation and activation. Interacts (phosphorylated upon activation by BDNF) with PLCG1 and/or PLCG2; mediates PLCG1 phosphorylation and activation. Interacts with SH2B1 and SH2B2. Interacts with NGFR; may regulate the ligand specificity of the receptor. Interacts (phosphorylated upon ligand-binding) with SH2D1A; regulates NTRK2. Interacts with SQSTM1 and KIDINS220. Interacts (phosphorylated upon ligand-binding) with FRS2; activates the MAPK signaling pathway.

Subcellular Location:
Cell membrane; Single-pass type I membrane protein. Endosome membrane; Single-pass type I membrane protein. Note=Internalized to endosomes upon ligand-binding.

Tissue Specificity:
facial structures, the submaxillary glands, and dorsal root ganglia. Isoform Isoform TrkB is expressed in the central and peripheral nervous system. In the central nervous system (CNS), expression is observed in the cerebral cortex, hippocampus, thalamus, choroid plexus, granular layer of the cerebellum, brain stem, and spinal cord. In the peripheral nervous system, it is expressed in many cranial ganglia, the ophtalmic nerve, the vestibular system, multiple facial structures, the submaxillary glands, and dorsal root ganglia. Isoform TrkB-T1 is mainly expressed in the brain but also detected in other tissues including pancreas, kidney and heart. Isoform TrkB-T-Shc is predominantly expressed in the brain.

Post-translational modifications:
Phosphorylated. Undergoes ligand-mediated autophosphorylation that is required for interaction with SHC1 and PLCG1 and other downstream effectors. Isoform TrkB-T-Shc is not phosphorylated.
Ubiquitinated. Undergoes polyubiquitination upon activation; regulated by NGFR. Ubiquitination regulates the internalization of the receptor.

DISEASE:
Defects in NTRK2 are the cause of obesity hyperphagia and developmental delay (OHPDD) [MIM:613886]. OHPDD is a disorder characterized by early-onset obesity, hyperphagia, and severe developmental delay in motor function, speech, and language.

Similarity:
Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.
Contains 2 Ig-like C2-type (immunoglobulin-like) domains.
Contains 2 LRR (leucine-rich) repeats.
Contains 1 LRRCT domain.
Contains 1 LRRNT domain.
Contains 1 protein kinase domain.

SWISS:
Q16620

Gene ID:
4915

Database links:

Entrez Gene: 4915 Human

	Entrez Gene: 18212 Mouse Omim: 600456 Human SwissProt: Q16620 Human SwissProt: P15209 Mouse Unigene: 494312 Human Unigene: 712776 Human Unigene: 130054 Mouse **Important Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. Neurobiology相关蛋白(Neurobiology) 此抗体针对NGF、BDNF、NT-3、NT-4等的受体包括trkA、trkB、trkC及NGFR。BDNF、NT-3能诱导trkB的酪氨酸磷酸化。(神经生长因子受体的一种)