

Rabbit Trk B Polyclonal Antibody | anti-TrkB antibody

Phospho-Trk B (Tyr817) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329882	Rabbit	Human, Mouse, Rat Predicted Reactivity: Horse (100%), Sheep (100%), Rabbit (100%), Chicken (100%)	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

Trk B; Polyclonal Antibody; Phospho-Trk B (Tyr817) Antibody; AI848316; BDNF tropomyosine receptor kinase B; BDNF/NT 3 growth factors receptor; BDNF/NT-3 growth factors receptor; Brain derived neurotrophic factor receptor; C030027L06Rik; EC 2.7.10.1; GP145 TrkB; GP145-TrkB; GP145-TrkB/GP95-TrkB; GP95 TrkB; Neurotrophic receptor tyrosine kinase 2; Neurotrophic tyrosine kinase receptor type 2; Neurotrophin receptor tyrosine kinase type 2; NTRK 2; Ntrk2; NTRK2_HUMAN; Obesity; hyperphagia; and developmental delay; included; RATTRKB1; Trkb; Trk-B; TRKB; TrkB tyrosine kinase; TRKB1; Tropomyosin related kinase B; tyrosine kinase receptor B; Tyrosine receptor kinase B; anti-TrkB antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Horse (100%), Sheep (100%), Rabbit (100%), Chicken (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-Trk B (Tyr817) Antibody detects endogenous levels of Trk B only when phosphorylated at Tyr817. Tissue Specificity: 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 ophthalmic 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.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-TrkB antibody	ELISA (Peptide ELISA), ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Trk B around the phosphorylation site of Tyr817.
Conjugation	Unconjugated
Fragment	Fab fragment
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 (By similarity).

Subunit Structure	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 (By similarity). Interacts with SORCS2; this interaction is important for normal targeting to post-synaptic densities in response to high-frequency stimulation (By similarity). Interacts (phosphorylated upon ligand-binding) with SH2D1A; regulates NTRK2. Interacts with SQSTM1 and KIDINS220 (By similarity). Interacts (phosphorylated upon ligand-binding) with FRS2; activates the MAPK signaling pathway. Interacts with APPL1 (By similarity). Interacts with MAPK8IP3/JIP3 and KLC1; interaction with KLC1 is mediated by MAPK8IP3/JIP3 (By similarity). Interacts with SORL1; this interaction facilitates NTRK2 trafficking between synaptic plasma membranes, postsynaptic densities and cell soma, hence positively regulates BDNF signaling (By similarity).
Similarity	Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.
Subcellular Location	Cell membrane>Single-pass type I membrane protein. Endosome membrane>Single-pass type I membrane protein. Early endosome membrane. Cell projection>Axon. Cell projection>Dendrite. Cytoplasm>Perinuclear region. Cell junction>Synapse>Postsynaptic density. Note: Internalized to endosomes upon ligand-binding.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



Application Data

At 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody(Red), diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemisry)

At 1/100 staining Mouse kidney tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohiostchemistry)

Staining Mouse colorectal tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of Trk B (Phospho-Tyr817) using 293 whole cell lysates.-/+ means absence or presence of N peptide¼non-phospho peptide) and P peptide(phospho peptide).

ADDITIONAL INFORMATION

Related Product Information for anti-TrkB antibody

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 (By similarity). 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.

NCBI AND UNIPROT INFORMATION

NCBI GI #	55956790
NCBI GeneID	4915
NCBI Accession #	NP_001007098.1
NCBI GenBank Nucleotide #	NM_001007097.1
UniProt Accession #	Q16620; Q16675; Q59GJ1; Q8WXJ5; Q8WXJ6; Q8WXJ7; B1ANZ4; B4DFV9
Molecular Weight	91,999 Da
NCBI Official Full Name	BDNF/NT-3 growth factors receptor isoform b
NCBI Official Synonym Full Names	neurotrophic tyrosine kinase, receptor, type 2
NCBI Official Symbol	NTRK2
NCBI Official Synonym Symbols	TRKB; trk-B; GP145-TrkB
NCBI Protein Information	BDNF/NT-3 growth factors receptor; trkB tyrosine kinase; tyrosine kinase receptor B; tropomyosin-related kinase B; BDNF-tropomyosine receptor kinase B
UniProt Protein Name	BDNF/NT-3 growth factors receptor
UniProt Gene Name	NTRK2
UniProt Synonym Gene Names	TRKB; Trk-B
UniProt Entry Name	NTRK2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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