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Phospho-TrkB (Y817) Antibody

Rabbit mAb
Catalog # AP90601

Product Information

Application	WB, IHC, IF, ICC, IP, IHF
Primary Accession	Q16620
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	NTRK2; gp145-TrkB; Trk-B; TRKB; Tropomyosin-related kinase B; TrkB tyrosine kinase; Tyrosine kinase receptor B;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	91999

Additional Information

Dilution	WB 1:500~1:1000 IHC 1:50~1:100 ICC/IF 1:50~1:100 IP 1:30
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Phospho-TrkB (Y817)
Description	The family of Trk receptor tyrosine kinases consists of TrkA, TrkB and TrkC. While the sequence of these family members is highly conserved, they are activated by different neurotrophins: TrkA by NGF, TrkB by BDNF or NT4, and TrkC by NT3. TrkA regulates proliferation and is important for development and maturation of the nervous system. Point mutations, deletions and chromosomal rearrangements (chimeras) cause ligand-independent receptor dimerization and activation of TrkA.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	NTRK2
Synonyms	TRKB
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 (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 (PubMed:15494731, PubMed:7574684). Upon ligand- binding, undergoes homodimerization, autophosphorylation and activation (PubMed:15494731). 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.

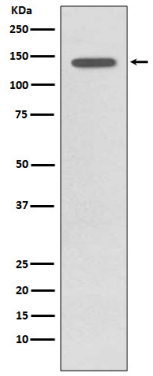
Cellular Location

Cell membrane; Single-pass type I membrane protein. Endosome membrane {ECO:0000250|UniProtKB:P15209}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P15209}. Early endosome membrane {ECO:0000250|UniProtKB:P15209}. Cell projection, axon {ECO:0000250|UniProtKB:Q63604}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q63604}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:Q63604}. Postsynaptic density {ECO:0000250|UniProtKB:P15209}. Note=Internalized to endosomes upon ligand-binding. {ECO:0000250|UniProtKB:P15209}

Tissue Location

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.

Images



Western blot analysis of Phospho-TrkB (Y817) expression in SH-SY5Y cell lysate treated with BDNF.

Image not found : 202311/AP90601-IHC.jpg

Immunohistochemical analysis of paraffin-embedded mouse brain cancer, using Phospho-TrkB (Y817) Antibody.

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