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Mouse Ntrk2 Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP13930c

Specification

Mouse Ntrk2 Antibody (Center) Blocking peptide - Product Information

Primary Accession P15209

Mouse Ntrk2 Antibody (Center) Blocking peptide - Additional Information

Gene ID 18212

Other Names
BDNF/NT-3 growth factors receptor, GP145-TrkB/GP95-TrkB, Trk-B, Neurotrophic tyrosine kinase receptor type 2, TrkB tyrosine kinase, Ntrk2, Trkb

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13930c was selected from the Center region of Mouse Ntrk2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Ntrk2 Antibody (Center) Blocking peptide - Protein Information

Name Ntrk2 {ECO:0000312|MGI:MGI:97384}

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

Tissue Location
Expressed in the brain, in neurons (at protein level) (PubMed:23977241). Detected in hippocampus (at protein level) (PubMed:27457814). 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.

Mouse Ntrk2 Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Mouse Ntrk2 Antibody (Center) Blocking peptide - Images

Mouse Ntrk2 Antibody (Center) Blocking peptide - Background

Receptor for brain-derived neurotrophic factor (BDNF), neurotrophin-3 and neurotrophin-4/5 but not nerve growth factor (NGF). Involved in the development and/or maintenance of the nervous system. This is a tyrosine-protein kinase receptor. Known substrates for the TRK receptors are SHC1, PI-3 kinase, and PLC-gamma-1.

Mouse Ntrk2 Antibody (Center) Blocking peptide - References

Xu, X., et al. Proc. Natl. Acad. Sci. U.S.A. 107(44):19126-19131(2010)Lobo, M.K., et al. Science 330(6002):385-390(2010)Gascon, E., et al. J. Neurosci. 30(37):12414-12423(2010)Nikoletopoulou, V., et al. Nature 467(7311):59-63(2010)Ohnishi, H., et al. J. Neurosci. 30(31):10472-10483(2010)