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Product datasheet for TA328906

Ntrk2 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	FC, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3,000; FC: 1:50-1:600
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)RLEPNSIDPENITE, corresponding to amino acid residues 57-70 of rat TrkB . Extracellular domain.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	neurotrophic receptor tyrosine kinase 2
Database Link:	NP_036863 Entrez Gene 4915 HumanEntrez Gene 18212 MouseEntrez Gene 25054 Rat Q63604

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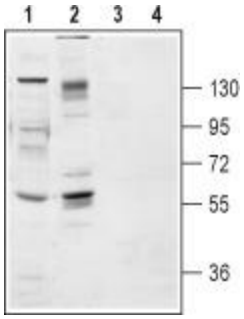
Background: BDNFÂ and NT-4 belong to the neurotrophin family which also includesÂ NGFÂ andÂ NT-3. These neurotrophins bind two groups of receptors. TheÂ p75NTRÂ receptor is common to all four neurotrophins and is a member of the tumor necrosis factor receptor family. The tropomyosin-related kinase (Trk) receptors are receptor tyrosine kinases (RTKs) and three receptors form this family: TrkA, TrkB, and TrkC.As mentioned above, the p75NTR receptor binds to all neurotrophins with similar affinities while the Trk receptors are the ones to display the selectivity for the neurotrophins. TrkA is activated by NGF binding, TrkB by that of BDNF and NT-4, while TrkC is stimulated by the binding of NT-3.All three Trk receptors are highly expressed in the mammalian brain in very distinct regions and are also expressed in the peripheral nervous system.Cholinergic neurons in the basal forebrain exclusively express TrkA, while TrkB and TrkC are highly expressed in the hippocampus. Motor and sensory neurons in the peripheral nervous system express Trk receptors. Interestingly, Trk receptors are not essential for development, but knockout mice die shortly after birth. Indeed, TrkB-deficient mice demonstrate a significant decrease in motor neurons and synaptogenesis.Trk receptors have many motifs in the extracellular region, including cell-adhesion domains, three tandem leucine rich motifs flanked by two clusters of cysteines. In the membrane proximal region of the receptor there are also two immunoglobulin-like domains. The binding of neurotrophins to Trk receptors promotes receptor dimerization resulting in kinase activation. Activated Trk receptors then phosphorylate a cascade of signaling molecules including the Ras/ERK, PI3K/Akt pathways and PLC-g1. Activated Trk receptors also create internal docking sites for other signaling adaptor proteins to bind to. Splice variants of TrkA, TrkB and TrkC have been observed. These splice isoforms are mainly affected in the tyrosine kinase domain of the receptor lying in the cytoplasm. Endocytosis is an important signaling trait of Trk receptors.Following neurotrophin binding to the Trk receptor, the receptor complex is then internalized via endocytosis in order to terminate signaling. However, in the axonal compartment of neurons the internalization process of the neurotrophin complexed to the receptor is part of the signaling process and is important for activating transcription processes in the nucleus.

Synonyms: GP145-TrkB; OTTHUMP00000021573; OTTHUMP00000021574; OTTHUMP00000021576; OTTHUMP00000021577; Trk-B; TRKB

Product images:



Western blot analysis of rat brain membranes (lanes 1 and 3) and HEK-TrkB transfected cell lysates (lanes 2 and 4): 1, 2. Anti-TrkB (extracellular) antibody, (1:200). 3, 4. Anti-TrkB (extracellular) antibody, preincubated with the control peptide antigen.

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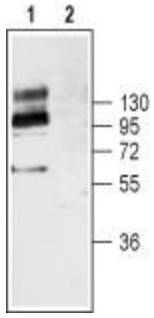
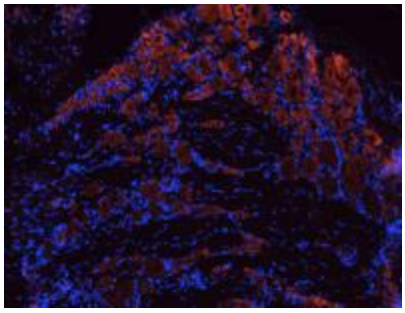
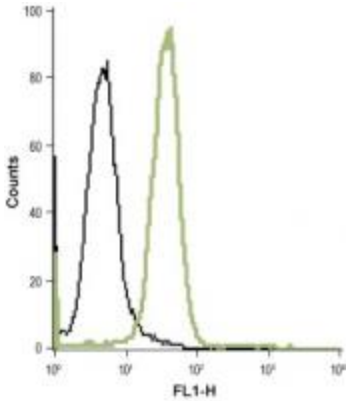


Western blot analysis of mouse brain lysates: 1. Anti-TrkB (extracellular) antibody, (1:200). 2. Anti-TrkB (extracellular) antibody, preincubated with the control peptide antigen.



Expression of TrkB in rat DRG. Immunohistochemical staining of rat dorsal root ganglia (DRG) frozen sections using Anti-TrkB (extracellular) antibody, (1:100). TrkB (red) is expressed in DRG neurons. Hoechst 33342 is used as the counterstain.



Indirect flow cytometry analysis of live intact HL-60 (human promyelocytic leukemia cells) cell line: black line: Cells + goat-anti-rabbit-FITC. Green line: Cells + Anti-TrkB (extracellular) antibody, (1:25) + goat-anti-rabbit-FITC.

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