



Rabbit Anti-TrkB antibody

SL0175R

Product Name TrkB**Chinese Name** 酪氨酸激酶 B 抗体**Alias**

NTRK2; 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; Trk B; Trk-B; TrkB tyrosine kinase; TRKB1; tyrosine kinase receptor B; Tyrosine receptor kinase B.

Research Area

Cell biology immunology Neurobiology Signal transduction Apoptosis Kinases and Phosphatases The cell membrane 受体

Immunogen Species

Rabbit

Clonality

Polyclonal

React Species

Human, Rat, (predicted: Mouse,)

Applications

WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1 μ g/Test
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight

90-92kDa

Cellular localization

cytoplasmic The cell membrane

Form

Liquid

Concentration 1mg/ml**immunogen**

KLH conjugated synthetic peptide derived from human NTRK2: 401-500/822

Lsotype

IgG

Purification

affinity purified by Protein A

Buffer Solution

1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Storage

Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed

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The Trk family of nerve growth factor receptors includes Trk A(also referred 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 phosphorylation 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 effector 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 neurotrophin-dependent calcium signaling in glial cells and mediate communication between neurons and glia.

Product Detail

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 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.

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).

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

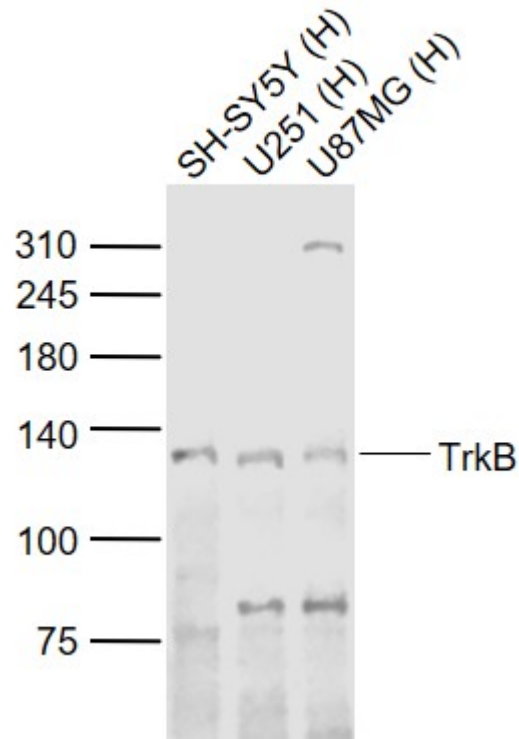
[Unigene: 712776](#) Human

[Unigene: 130054](#) Mouse

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)

**Product
Picture**



Sample:

Lane 1: SH-SY5Y (Human) Cell Lysate at 30 ug

Lane 2: U251 (Human) Cell Lysate at 30 ug

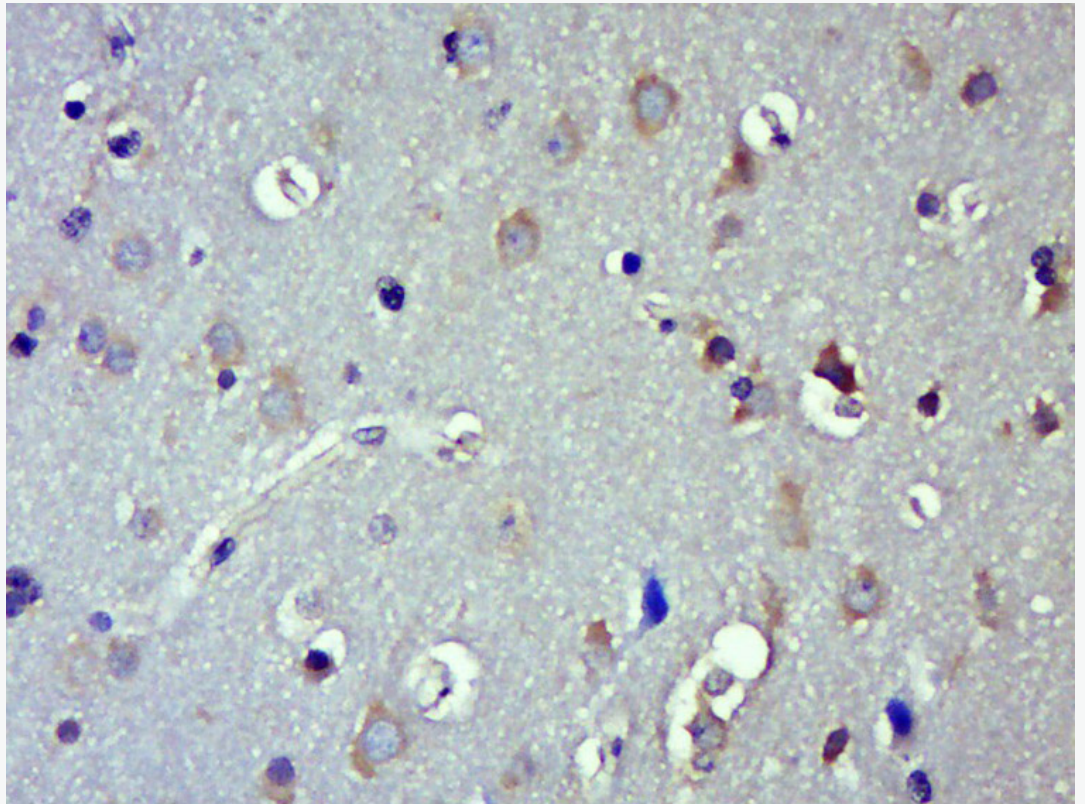
Lane 3: U87MG (Human) Cell Lysate at 30 ug

Primary: Anti-TrkB (SL0175R) at 1/1000 dilution

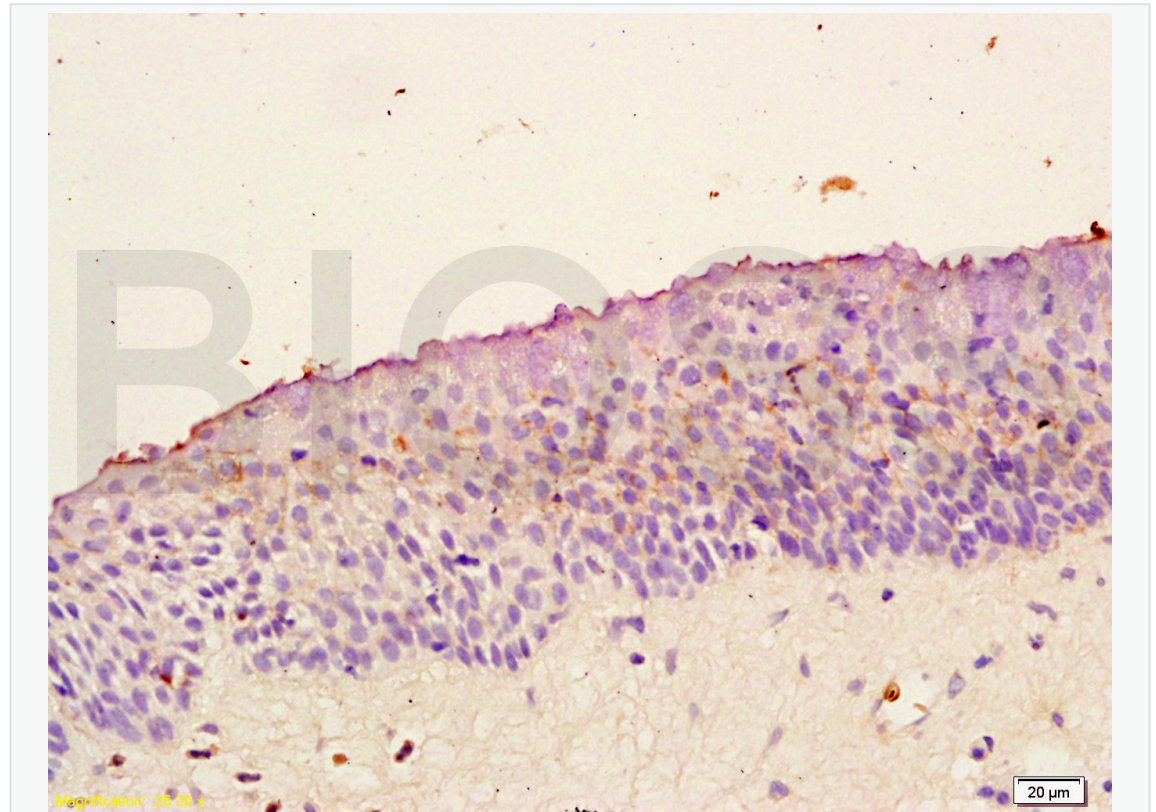
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 130 kD

Observed band size: 130 kD



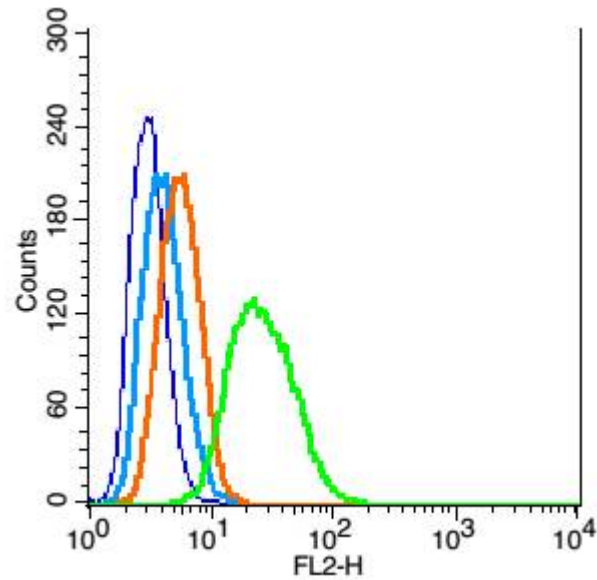
Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TrkB) Polyclonal Antibody, Unconjugated (SL0175R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Tissue/cell: human nasopharyngeal carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-Trk-B Polyclonal Antibody, Unconjugated(SL0175R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control: RSC96(blue), the cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with ice-cold 90% methanol for 30 min on ice.

Isotype Control Antibody: Rabbit IgG(orange) ; Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA ; Primary Antibody Dilution: 1 μ g in 100 μ L 1X PBS containing 0.5% BSA(green).