

Rabbit antibody to the Tyrosine Kinase Receptor B (TrkB; 54-67): whole serum

Catalogue No.:	R-121-100
Description:	FUNCTION: 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. CATALYTIC ACTIVITY: ATP + a [protein]-L-tyrosine = ADP + a [protein]-L-tyrosine phosphate. SUBUNIT: Exists in a dynamic equilibrium between monomeric (low affinity) and dimeric (high affinity) structures (By similarity). Binds APS. Interacts with SQSTM1. SUBCELLULAR LOCATION: Membrane; single-pass type I membrane protein. ALTERNATIVE PRODUCTS: 3 named isoforms produced by alternative splicing. Additional isoforms seem to exist. TISSUE SPECIFICITY: The different forms are differentially expressed in various cell types. Isoform T2 is primarily expressed in neurons. PTM: Ligand-mediated auto-phosphorylation. SIMILARITY: Belongs to the Tyr protein kinase family. Insulin receptor subfamily. SIMILARITY: Contains 2 Ig-like C2-type (immunoglobulin-like) domains. SIMILARITY: Contains 2 LRR (leucine-rich) repeats. SIMILARITY: Contains 1 protein kinase domain.
Related products:	TrkB control peptide (aa: 54-67), PE-1252-100
Batch No.:	See product label
Unit size:	100 uL
Antigen:	A synthetic peptide (AFPRLEPNSIDPEN(C)) as part of rat TrkB protein (aa: 54-67) conjugated to KLH
Other Names:	Tropomyosin-related kinase receptor; BDNF/NT-3 growth factors receptor; Neurotrophic tyrosine kinase receptor type 2; TrkB tyrosine kinase; GP145-TrkB/GP95-TrkB; Trk-B; Ntrk2; Trkb
Accession:	NTRK2_RAT
Produced in:	Rabbit
Purity:	Whole serum
Applications:	IHC. A dilution of 1:1000 to 1:3000 is recommended for this application. For WB, a 1:500 to 1:1000 dilution is recommended. The sequence of the immunogen and the conjugate are identical to the one used by Yan et al (see the Refs) and the antiserum appears to have similar characteristics. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	Sequence was chosen to avoid cross reactivity with TrkA and TrkC.
Cross-reactivity:	This antiserum recognises human, rat and mouse TrkB. Cross reactivity with other species has not yet been tested.
Form:	Lyophilised
Reconstitution:	Reconstitute in 100 uL of sterile water. Centrifuge to remove any insoluble material.
Storage:	After reconstitution keep aliquots at -20C for a higher stability, and at 2-8C with an appropriate

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antibacterial agent. Glycerol (1:1) may be added for an additional stability. Avoid repetitive freeze/thaw cycles.

Expiry Date: 12 months after purchase

Specific References: Warren PM et al. (2018) "Rapid and robust restoration of breathing long after spinal cord injury." *Nat Commun.* 2018 Nov. PMID: 30482901 9(1):4843. Application: IHC/IF. Species: Rat, spinal cord sections.

Wang T et al. (2016) "Flux of signalling endosomes undergoing axonal retrograde transport is encoded by presynaptic activity and TrkB." *Nat Commun.* 2016 Sep. PMID: 27687129 30(7):12976. Application: IF & structured illumination microscopy (SIM). Species: Rat, Mouse; fixed 4% PFA with 4% sucrose

Matusica D et al. (2016) Inhibition of motor neuron death in vitro and in vivo by a p75 neurotrophin receptor intracellular domain fragment. *J Cell Sci.* 2016 Feb 1;129(3):517-30. Application: WB.

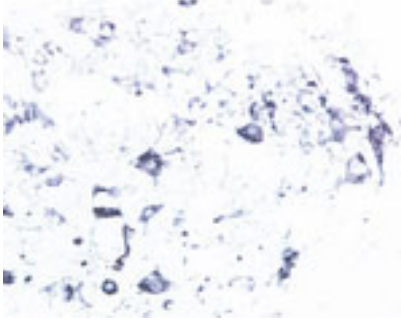
Brock JH et al. (2010) Local and remote growth factor effects after primate spinal cord injury. *J Neurosci.* 2010 Jul 21;30(29):9728-37.

Gruber H. et al. (2008) Brain-derived neurotrophic factor and its receptor in the human and the sand rat intervertebral disc. *Arthritis Res Ther.* 2008; 10(4): R82.

- References:**
1. Yan Q et al. *J Comp Neurol* 378:135-57 (1997).
 2. Stoilov, P., et al., *Biochem. Biophys. Res. Commun.* 290(3):1054-1065 (2002).
 3. Strausberg, R.L., et al., *Proc. Natl. Acad. Sci. U.S.A.* 99(26):16899-16903 (2002).
 4. Nakagawara, A., et al., *Genomics* 25(2):538-546 (1995).
 5. Haniu, M., et al., *Arch. Biochem. Biophys.* 322(1):256-264 (1995).
 6. Allen, S.J., et al., *Neuroscience* 60(3):825-834 (1994).
 7. Mizoguchi Y et al., *J Immunol.* 2009 Dec 15;183(12):7778-86.
 8. Spencer-Segal JL et al. *J Neurosci.* 2011 May 4;31(18):6780-90.
 9. Nakajima K et al. *Glia.* 1998 Nov;24(3):272-89.

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Immunohistochemical staining of Tyrosine Kinase Receptor B (TrkB) in rat spinal cord using rabbit polyclonal antibody to rat TrkB, catalogue number R-121-100.

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