

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TrkB in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human (rh) TrkA, recombinant rat TrkA, recombinant mouse (rm) TrkB, rhTrkC, or rmTrkC is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 72509
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TrkB Cys32-His430 Accession # Q16620
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human TrkB transfected C6 cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

The neurotrophins, including NGF, BDNF, NT-3, and NT-4/5 constitute a group of structurally related, secreted proteins that play an important role in the development and function of the nervous system. The biological activities of the neurotrophins are mediated by binding to the different members of the Trk family tyrosine kinase receptors. Three Trk family proteins, TrkA, TrkB, and TrkC, exhibiting different ligand specificities, have been identified. TrkA binds NGF, TrkB binds BDNF and NT-4/5 and TrkC binds NT-3. All Trk family proteins share a conserved complex subdomain organization consisting of a signal peptide, two cysteine-rich domains, a cluster of three leucine-rich motifs, and two immunoglobulin-like domains in the extracellular region, as well as an intracellular region that contains the tyrosine kinase domain. Natural splice variants of the different Trks, including TrkB variants lacking the first cysteine-rich domain, the first and second or all three of the leucine-rich motifs, or the tyrosine kinase domain, have been described. The role of the different extracellular subdomains of TrkB in mediating neurotrophin binding and discrimination is currently being investigated. At the protein sequence level, human and rat TrkB are greater than 90% identical and the proteins exhibit cross-species activity. TrkB is primarily expressed in the nervous system. However, low levels of TrkB expression have also been observed in a wide variety of tissues (pancreas, kidneys, ovary) outside the nervous system.

References:

1. Ninkina, N. *et al.* (1997) *J. Biol. Chem.* **272**:13019.
2. Middlemas, D.S. *et al.* (1991) *Mol. Cell Biol.* **11**:143.
3. Soppet, D. *et al.* (1991) *Cell* **65**:895.

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