

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human EphB3 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) EphA3, rhEphA4, EphB2, or recombinant mouse EphB3 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 647354
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EphB3 Leu38-Ala550 Accession # P54753
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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	SH-SY5Y human neuroblastoma cell line

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

EphB3, also known as Cek10, Tyro6, Sek4, Hek2, and Mdk5, is a 110-130 kDa member of the transmembrane Eph receptor tyrosine kinase family. The A and B classes of Eph proteins are distinguished by Ephrin ligand binding preference but have a common structural organization. Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression (1). The 526 amino acid (aa) extracellular domain (ECD) of mature human EphB3 contains a ligand binding domain followed by a cysteine rich region and two fibronectin type III domains. The 418 aa cytoplasmic domain contains a tyrosine kinase domain, a sterile alpha motif (SAM), and a PDZ binding motif (2). Within the ECD, human EphB3 shares 96% aa sequence identity with mouse and rat EphB3. Binding of EphB3 to its ligands Ephrin-B1, B2, and B3 triggers forward signaling through EphB3 as well as reverse signaling through the Ephrin (1, 3). EphB3 also interacts *in cis* with the receptor tyrosine kinase Ryk (4). Activation of its kinase is required for some but not all of the effects of EphB3 on cellular adhesion, motility, and morphology (5). EphB3 is widely expressed during development and in the adult; it shows a complementary tissue distribution to the Ephrin-B ligands (6-9). EphB3 function is important in vascular, nervous system, thymocyte, and palate development (6, 7, 10-12). It directs embryonic neuronal axon pathfinding, and its upregulation on local macrophages following neuronal injury promotes the growth of regenerating axons (10, 13). EphB3 inhibits colorectal carcinogenesis and invasion by preventing the migration of tumor cells out of the intestinal crypt (9, 14). EphB3 function is supported by the cooperative action of EphB2 in several of these processes (6, 10-12, 15).

References:

1. Pasquale, E.B. (2008) *Cell* **133**:38.
2. Bohme, B. *et al.* (1993) *Oncogene* **8**:2857.
3. Pasquale, E.B (2004) *Nat. Neurosci.* **7**:417.
4. Trivier, E. and T.S. Ganesan (2002) *J. Biol. Chem.* **277**:23037.
5. Miao, H. *et al.* (2005) *J. Biol. Chem.* **280**:923.
6. Adams, R.H. *et al.* (1999) *Genes Dev.* **13**:295.
7. Krull, C.E. *et al.* (1997) *Curr. Biol.* **7**:571.
8. Willson, C.A. *et al.* (2006) *J. Mol. Histol.* **37**:369.
9. Cortina, C. *et al.* (2007) *Nature Genet.* **39**:1376.
10. Birgbauer, E. *et al.* (2000) *Development* **127**:1231.
11. Alfaro, D. *et al.* (2008) *Immunology* **125**:131.
12. Rislely, M. *et al.* (2009) *Mech. Dev.* **126**:230.
13. Liu, X. *et al.* (2006) *J. Neurosci.* **26**:3087.
14. Battle, E. *et al.* (2005) *Nature* **435**:1126.
15. Holmberg, J. *et al.* (2006) *Cell* **125**:1151.

Human EphB3 Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 647354

Catalog Number: FAB56671T
100 µg

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