Human EphB3 Antibody

Monoclonal Mouse IgG_{2B} Clone # 647308

Catalog Number: MAB5667

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human EphB3 in direct ELISAs and Western blots. In Western blots, 100% cross-reactivity with recombinant mouse (rm) EphB3, 25% cross-reactivity with rmEphB2, and no cross-reactivity with recombinant human (rh) EphA1, A2, A5, A6, A10, rmEphA3, A4, A7, B4, B6, or recombinant rat EphB1.
Source	Monoclonal Mouse IgG_{2B} Clone # 647308
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EphB3 Leu38-Ala550 Accession # P54753
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

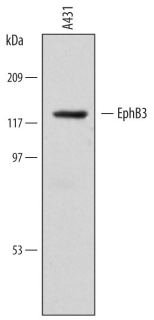
APPLICATIONS

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
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human EphB3 by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human EphB3 Monoclonal Antibody (Catalog # MAB5667) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for EphB3 at approximately 130 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

BACKGROUND

EphB3, also known as Cek10, Tyro6, Sek4, Hek2, and Mdk5, is a 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 embyronic 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:

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North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
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