Mouse EphB3 Antibody

Monoclonal Rat IgG_{2A} Clone # 521002

Catalog Number: MAB432

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse EphB3 in direct ELISAs and Western blots. In direct ELISAs, 100% cross-reactivity with recombinant human (rh) EphB3 is observed and no cross-reactivity with recombinant rat EphB1, recombinant mouse (rm) EphB4, rmEphB2, rmEphB7, rmEphA4, rmEphA3, rhEphB2, or rhEphA5 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 521002
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse EphB3 Leu30-Leu554 Accession # P54754
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.

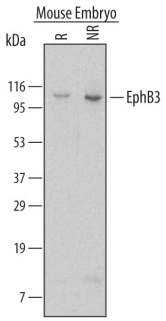
APPLICATIONS

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	2 µg/mL	See Below

DATA

Western Blot



Detection of Mouse EphB3 by Western Blot. Western blot shows lysates of mouse embryo (E19) tissue under reducing (R) and non-reducing (NR) conditions. PVDF membrane was probed with 2 µg/mL Rat Anti-Mouse EphB3 Monoclonal Antibody (Catalog # MAB432) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band for EphB3 was detected at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.

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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 525 amino acid (aa) extracellular domain (ECD) of mature mouse 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, mouse EphB3 shares 96% and 99% aa sequence identity with human and rat EphB3, respectively. 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:

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