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EPHB2 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM7623B

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P29323
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1κ
Clone Names	48CT12.6.4
Calculated MW	117493

Additional Information

Gene ID	2048
Other Names	Ephrin type-B receptor 2, Developmentally-regulated Eph-related tyrosine kinase, ELK-related tyrosine kinase, EPH tyrosine kinase 3, EPH-like kinase 5, EK5, hEK5, Renal carcinoma antigen NY-REN-47, Tyrosine-protein kinase TYRO5, Tyrosine-protein kinase receptor EPH-3, EPHB2, DRT, EPHT3, EPTH3, ERK, HEK5, TYRO5
Target/Specificity	Purified His-tagged EPHB2 protein(Fragment, between amino acids 127~425) was used to produce this monoclonal antibody.
Dilution	WB~~1:2000 IHC-P~~1:200 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	EPHB2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EPHB2
Synonyms	DRT, EPHT3, EPTH3, ERK, HEK5, TYRO5

Function	Receptor tyrosine kinase which binds promiscuously transmembrane ephrin-B family ligands residing on adjacent cells, leading to contact-dependent bidirectional signaling into neighboring cells. The signaling pathway downstream of the receptor is referred to as forward signaling while the signaling pathway downstream of the ephrin ligand is referred to as reverse signaling. Functions in axon guidance during development. Involved in the guidance of commissural axons, that form a major interhemispheric connection between the 2 temporal lobes of the cerebral cortex. Also involved in guidance of contralateral inner ear efferent growth cones at the midline and of retinal ganglion cell axons to the optic disk. In addition to axon guidance, also regulates dendritic spines development and maturation and stimulates the formation of excitatory synapses. Upon activation by EFNB1, abolishes the ARHGEF15-mediated negative regulation on excitatory synapse formation. Controls other aspects of development including angiogenesis, palate development and in inner ear development through regulation of endolymph production. Forward and reverse signaling through the EFNB2/EPHB2 complex regulate movement and adhesion of cells that tubularize the urethra and septate the cloaca. May function as a tumor suppressor. May be involved in the regulation of platelet activation and blood coagulation (PubMed:30213874).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, axon. Cell projection, dendrite
Tissue Location	Brain, heart, lung, kidney, placenta, pancreas, liver and skeletal muscle. Preferentially expressed in fetal brain

Background

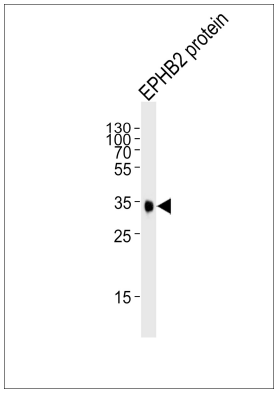
Ephrin receptors and their ligands, the ephrins, mediate numerous developmental processes, particularly in the nervous system. Based on their structures and sequence relationships, ephrins are divided into the ephrin-A (EFNA) class, which are anchored to the membrane by a glycosylphosphatidylinositol linkage, and the ephrin-B (EFNB) class, which are transmembrane proteins. The Eph family of receptors are divided into 2 groups based on the similarity of their extracellular domain sequences and their affinities for binding ephrin-A and ephrin-B ligands. Ephrin receptors make up the largest subgroup of the receptor tyrosine kinase (RTK) family. The protein encoded by this gene is a receptor for ephrin-B family members.

References

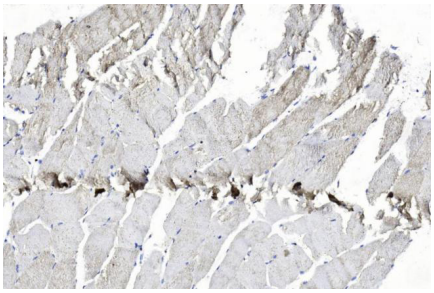
Maternal genes and facial clefts in offspring: a comprehensive search for genetic associations in two population-based cleft studies from Scandinavia. Jugessur A, et al. PLoS One, 2010 Jul 9. PMID 20634891. Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086. Loss of cell-surface receptor EphB2 is important for the growth, migration, and invasiveness of a colon cancer cell line. Senior PV, et al. Int J Colorectal Dis, 2010 Jun. PMID 20339854. Ephrin-B2 regulates endothelial cell morphology and motility independently of Eph-receptor binding. Bochenek ML, et al. J Cell Sci, 2010 Apr 15. PMID 20233847. The EphB2 tumor suppressor induces autophagic cell death via concomitant activation of the ERK1/2 and PI3K pathways. Kandouz M, et al. Cell Cycle, 2010 Jan 15. PMID 20046096.

Images

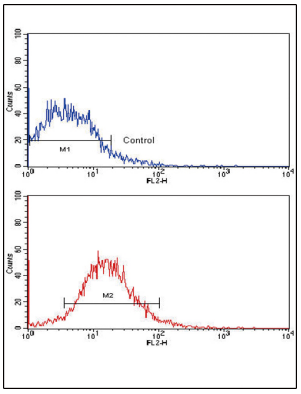
Western blot analysis of lysate from EPHB2 protein, using EphB2 Antibody(Cat. #AM7623b). AM7623b was diluted at 1:1000. A goat anti-mouse IgG H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysate at



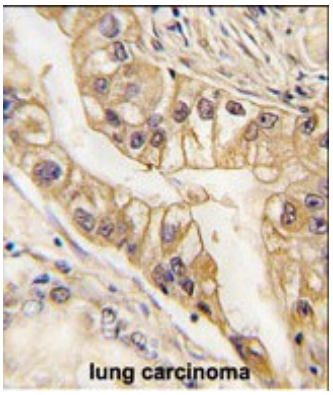
35µg.



Immunohistochemical analysis of paraffin-embedded Human Skeletal muscle section using Pink1(Cat#am7623b). am7623b was diluted at 1:400 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



Flow cytometric analysis of HepG2 cells using EPHB2 Monoclonal Antibody(bottom histogram) compared to a negative control cell (top histogram). PE-conjugated goat-anti-mouse secondary antibodies were used for the analysis.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with EPHB2 Monoclonal Antibody (Cat.#AM7623b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.