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EphB3 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1163a

Product Information

Application	WB, IHC, E
Primary Accession	P54753
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4A122D1
Isotype	IgG2a
Calculated MW	110330
Description	EphB3: EPH receptor B3. 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.
Immunogen	Purified recombinant fragment of EphB3 (aa39-212) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	2049
Other Names	Ephrin type-B receptor 3, 2.7.10.1, EPH-like tyrosine kinase 2, EPH-like kinase 2, Embryonic kinase 2, EK2, hEK2, Tyrosine-protein kinase TYRO6, EPHB3, ETK2, HEK2, TYRO6
Dilution	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	EphB3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EPHB3
Synonyms	ETK2, HEK2, TYRO6
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. Generally has an overlapping and redundant function with EPHB2. Like EPHB2, functions in axon guidance during development regulating for instance the neurons forming the corpus callosum and the anterior commissure, 2 major interhemispheric connections between the temporal lobes of the cerebral cortex. In addition to its role in axon guidance also plays an important redundant role with other ephrin-B receptors in development and maturation of dendritic spines and the formation of excitatory synapses. Controls other aspects of development through regulation of cell migration and positioning. This includes angiogenesis, palate development and thymic epithelium development for instance. Forward and reverse signaling through the EFNB2/EPHB3 complex also regulate migration and adhesion of cells that tubularize the urethra and septate the cloaca. Finally, plays an important role in intestinal epithelium differentiation segregating progenitor from differentiated cells in the crypt.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, dendrite
Tissue Location	Ubiquitous.

References

1. Oncogene. 1998 Jan 29;16(4):471-80. 2. Pharmacol Ther. 1998 Mar;77(3):151-81. 3. Proc Natl Acad Sci U S A. 1998 Aug 18;95(17):9779-84. 4. J Biol Chem. 2002 Jun 21;277(25):23037-43.

Images

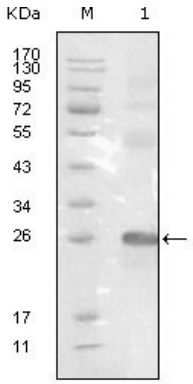
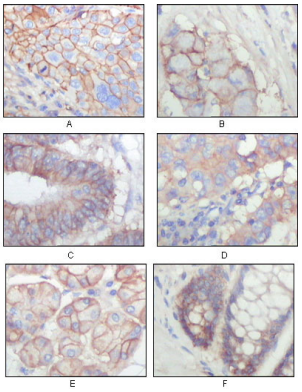


Figure 1: Western blot analysis using EphB3 mouse mAb against truncated EphB3-His recombinant protein.

Figure 2: Immunohistochemical analysis of paraffin-embedded human lung squamous cell carcinoma (A), lung adenocarcinoma (B), colon carcinoma (C), breast carcinoma (D), normal sublingual gland (E), normal rectal (F), showing membrane localization with



DAB staining using EphB3 mouse mAb.

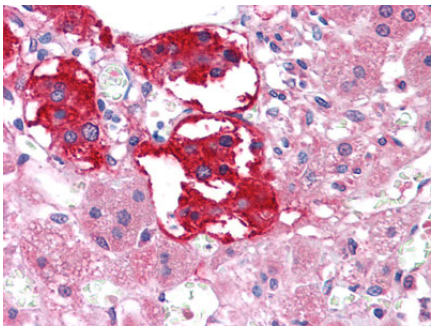


Figure 3: Immunohistochemical analysis of paraffin-embedded human Adrenal tissues using EPHB3 mouse mAb

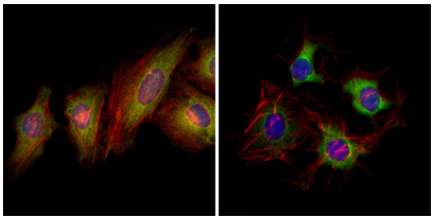


Figure 2:Immunofluorescence analysis of Hela (left) and HepG2 (right) cells using EphB2 mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

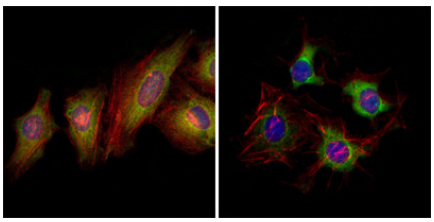


Figure 2:Immunofluorescence analysis of Hale (left) and HepG2 (right) cells using anti-EphB2 mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.