10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

EphB2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7623b

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P29323
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	117493
Antigen Region	1021-1050

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	This EphB2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1021-1050 amino acids from the C-terminal region of human EphB2.
Dilution	WB~~1:2000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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 (C-term) 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

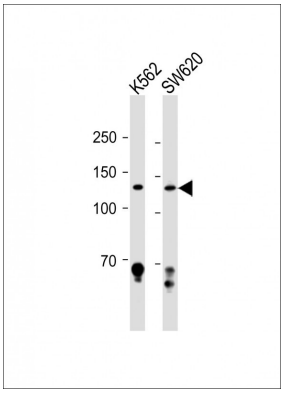
Ephrin receptors and their ligands, the ephrins, mediate numerous developmental processes, particularly in the nervous system. Based on their structures and sequence relationships, ephrins are divided into the ephrin-A (EFNA) class, which are anchored to the membrane by a glycosylphosphatidylinositol 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 ligand-activated form of EphB2, which belongs to the Tyr family of protein kinases, interacts with multiple proteins, including GTPase-activating protein (RASGAP) through its SH2 domain. It binds RASGAP through the juxtamembrane tyrosines residues, and also interacts with PRKCABP and GRIP1 This type I membrane protein is expressed in brain, heart, lung, kidney, placenta, pancreas, liver and skeletal muscle. It is preferentially expressed in fetal brain. This protein contains putatively 2 fibronectin type III domains and 1 sterile alpha motif (SAM) domain.

References

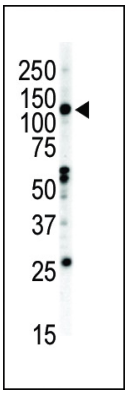
Thanos, C.D., et al., Science 283(5403):833-836 (1999).
Tang, X.X., et al., Oncogene 17(4):521-526 (1998).
Fox, G.M., et al., Oncogene 10(5):897-905 (1995).
Ikegaki, N., et al., Hum. Mol. Genet. 4(11):2033-2045 (1995).
Iwase, T., et al., Biochem. Biophys. Res. Commun. 194(2):698-705 (1993).

Images

All lanes: Anti-EphB2 Antibody (C-term) at 1:2000 dilution Lane 1: K562 whole cell lysate Lane 2: SW620 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615)



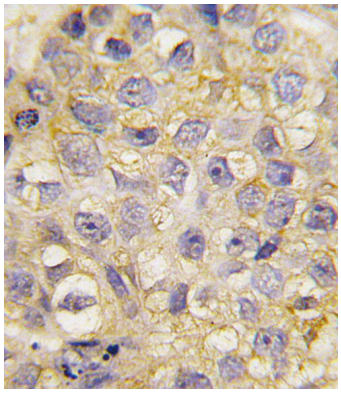
at 1/15000 dilution. Observed band size: 130 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of anti-EphB2 C-term Pab (Cat. #AP7623b) in NCI-H460 cell lysate. EphB2 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

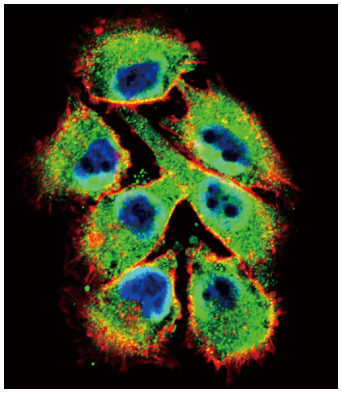


Formalin-fixed and paraffin-embedded human breast carcinoma reacted with EphB2 Antibody (C-term)(Cat.#AP7623b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with EphB2 antibody (C-term), 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.

Confocal immunofluorescent analysis of EphB2 Antibody (C-term)(Cat#AP7623b) with A375 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).



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