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

EphB1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7622a

Product Information

Application	WB, IHC-P, E
Primary Accession	P54762
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	109885
Antigen Region	955-984

Additional Information

Gene ID	2047
Other Names	Ephrin type-B receptor 1, ELK, EPH tyrosine kinase 2, EPH-like kinase 6, EK6, hEK6, Neuronally-expressed EPH-related tyrosine kinase, NET, Tyrosine-protein kinase receptor EPH-2, EPHB1, ELK, EPHT2, HEK6, NET
Target/Specificity	This EphB1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 955-984 amino acids from the C-terminal region of human EphB1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. 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	EphB1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EPHB1
Synonyms	ELK, EPHT2, HEK6, NET
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. Cognate/functional ephrin ligands for this receptor include EFNB1, EFNB2 and EFNB3. During nervous system development, regulates retinal axon guidance redirecting ipsilaterally ventrotemporal retinal ganglion cells axons at the optic chiasm midline. This probably requires repulsive interaction with EFNB2. In the adult nervous system together with EFNB3, regulates chemotaxis, proliferation and polarity of the hippocampus neural progenitors. 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 synapse formation. May also regulate angiogenesis. More generally, may play a role in targeted cell migration and adhesion. Upon activation by EFNB1 and probably other ephrin-B ligands activates the MAPK/ERK and the JNK signaling cascades to regulate cell migration and adhesion respectively. Involved in the maintenance of the pool of satellite cells (muscle stem cells) by promoting their self-renewal and reducing their activation and differentiation (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein Early endosome membrane. Cell projection, dendrite {ECO:0000250|UniProtKB:Q8CBF3}
Tissue Location	Preferentially expressed in brain.

Background

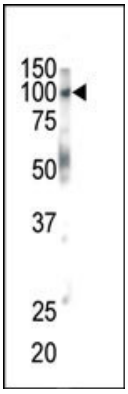
Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The tyrosine kinase (TK) group is mainly involved in the regulation of cell-cell interactions such as differentiation, adhesion, motility and death. There are currently about 90 TK genes sequenced, 58 are of receptor protein TK (e.g. EGFR, EPH, FGFR, PDGFR, TRK, and VEGFR families), and 32 of cytosolic TK (e.g. ABL, FAK, JAK, and SRC families).

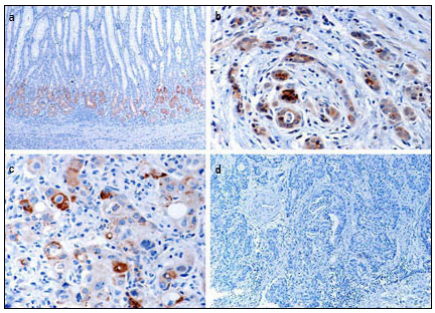
References

Prevost, N., et al., Proc. Natl. Acad. Sci. U.S.A. 99(14):9219-9224 (2002).
Wilkinson, D.G., Nat Rev Neurosci 2(3):155-164 (2001).
Xu, Q., et al., Philos. Trans. R. Soc. Lond., B, Biol. Sci. 355(1399):993-1002 (2000).
Holder, N., et al., Development 126(10):2033-2044 (1999).
Stein, E., et al., J. Biol. Chem. 273(3):1303-1308 (1998).

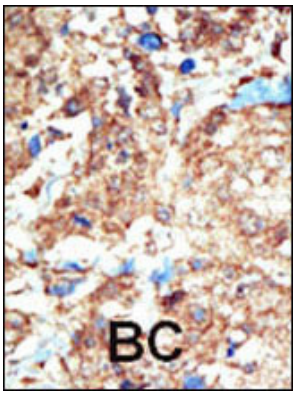
Images

Western blot analysis of anti-EphB1 Pab (Cat. #AP7622a) in mouse brain tissue. EphB1 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

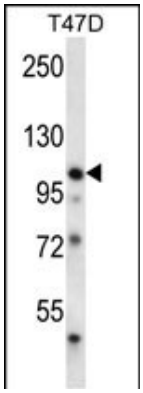




Immunohistochemical analysis of EphB1 in gastric cancer tissues. a EphB1 protein expressed in normal mucosa at the glandular compartment and in a decreasing gradient from the glandular compartment to the foveolar compartment. b EphB1 protein focally positively stained in well-differentiated gastric cancer cells. c EphB1 protein is focally positive in poorly differentiated gastric cancer cells. d Loss of EphB1 expression in gastric cancer cells.(Provided by Jian-dong Wang,Department of Pathology Nanjing Jinling Hospital/Nanjing University School of Medicine)



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, 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. BC = breast carcinoma; HC = hepatocarcinoma.



EPHB1 Antibody (H970) (Cat. #AP7622a) western blot analysis in T47D cell line lysates (35ug/lane).This demonstrates the EPHB1 antibody detected the EPHB1 protein (arrow).

Citations

- Wang JD., et al. Loss of expression of EphB1 protein in gastric carcinoma associated with invasion and metastasis.Oncology. 2007;73(3-4):238-45. doi: 10.1159/000127421.
- EphB1 is underexpressed in poorly differentiated colorectal cancers.