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EphA2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7607A

Product Information

Application	WB, FC, IHC-P, E
Primary Accession	P29317
Other Accession	Q1KL86
Reactivity	Human, Mouse
Predicted	Monkey, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	108266
Antigen Region	30-60

Additional Information

Gene ID	1969
Other Names	Ephrin type-A receptor 2, Epithelial cell kinase, Tyrosine-protein kinase receptor ECK, EPHA2, ECK
Target/Specificity	This EphA2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 30-60 amino acids from the N-terminal region of human EphA2.
Dilution	WB~~1:1000 FC~~1:10~50 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 purified through a protein A column, followed by peptide affinity purification.
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	EphA2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EPHA2
Synonyms	ECK

Function	Receptor tyrosine kinase which binds promiscuously membrane- bound ephrin-A 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. Activated by the ligand ephrin- A1/EFNA1 regulates migration, integrin-mediated adhesion, proliferation and differentiation of cells. Regulates cell adhesion and differentiation through DSG1/desmoglein-1 and inhibition of the ERK1/ERK2 (MAPK3/MAPK1, respectively) signaling pathway. May also participate in UV radiation-induced apoptosis and have a ligand- independent stimulatory effect on chemotactic cell migration. During development, may function in distinctive aspects of pattern formation and subsequently in development of several fetal tissues. Involved for instance in angiogenesis, in early hindbrain development and epithelial proliferation and branching morphogenesis during mammary gland development. Engaged by the ligand ephrin-A5/EFNA5 may regulate lens fiber cells shape and interactions and be important for lens transparency development and maintenance. With ephrin-A2/EFNA2 may play a role in bone remodeling through regulation of osteoclastogenesis and osteoblastogenesis.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, ruffle membrane; Single-pass type I membrane protein. Cell projection, lamellipodium membrane; Single-pass type I membrane protein. Cell junction, focal adhesion. Note=Present at regions of cell-cell contacts but also at the leading edge of migrating cells (PubMed:19573808, PubMed:20861311). Relocates from the plasma membrane to the cytoplasmic and perinuclear regions in cancer cells (PubMed:18794797).
Tissue Location	Expressed in brain and glioma tissue and glioma cell lines (at protein level). Expressed most highly in tissues that contain a high proportion of epithelial cells, e.g. skin, intestine, lung, and ovary.

Background

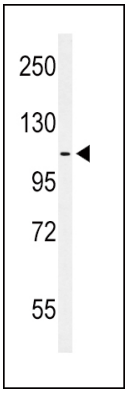
Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, 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).

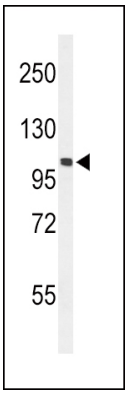
References

Lindberg, R.A., et al., Mol. Cell. Biol. 10(12):6316-6324 (1990).

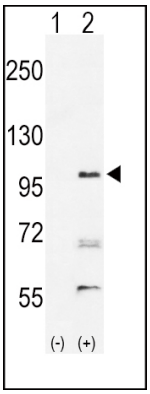
Images

Western blot analysis of hEPHA2-T45 (Cat. #AP7607a) in MCF-7 cell line lysates (35ug/lane). EPHA2 (arrow) was detected using the purified Pab

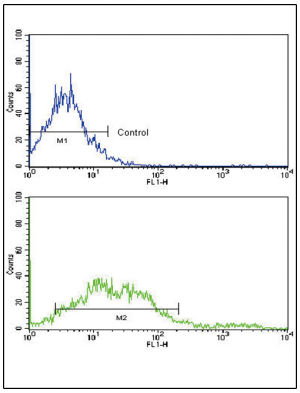




Western blot analysis of hEPHA2-T45 (Cat. #AP7607a) in mouse NIH-3T3 cell line lysates (35ug/lane). EPHA2 (arrow) was detected using the purified Pab.

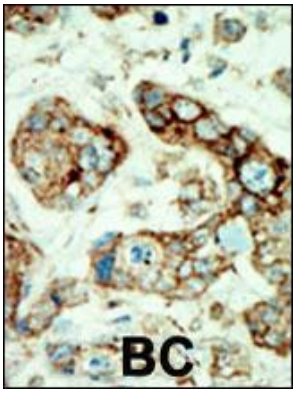


Western blot analysis of EPHA2 (arrow) using rabbit polyclonal hEPHA2-T45 (Cat. #AP7607a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the EPHA2 gene (Lane 2)



Flow cytometric analysis of NCI-H292 cells using EphA2 Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Citations

- Immunohistochemical demonstration of EphA2 processing by MT1-MMP in invasive cutaneous squamous cell carcinoma.
- The role of sema4D in vasculogenic mimicry formation in non-small cell lung cancer and the underlying mechanisms.
- YSA-conjugated mesoporous silica nanoparticles effectively target EphA2-overexpressing breast cancer cells.

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