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Mouse Epha4 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20760c

Product Information

Application	WB, E
Primary Accession	Q03137
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB50584
Calculated MW	109814

Additional Information

Gene ID	13838
Other Names	Ephrin type-A receptor 4, Tyrosine-protein kinase receptor MPK-3, Tyrosine-protein kinase receptor SEK-1, Epha4, Sek, Sek1
Target/Specificity	This Mouse Epha4 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 309-342 amino acids from the Central region of human Mouse Epha4.
Dilution	WB~~1:1000 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	Mouse Epha4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Epha4
Synonyms	Sek, Sek1
Function	Receptor tyrosine kinase which binds membrane-bound ephrin 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. Highly promiscuous, it has the unique property among Eph receptors to bind and to be physiologically activated by both GPI- anchored ephrin-A and transmembrane ephrin-B ligands including EFNA1 and EFNB3. Upon activation by ephrin ligands, modulates cell morphology and integrin-dependent cell adhesion through regulation of the Rac, Rap and Rho GTPases activity (PubMed:17719550). Plays an important role in the development of the nervous system controlling different steps of axonal guidance including the establishment of the corticospinal projections (PubMed:17719550, PubMed:17785183, PubMed:9789074). May also control the segregation of motor and sensory axons during neuromuscular circuit developmen (PubMed:18403711). In addition to its role in axonal guidance plays a role in synaptic plasticity. Activated by EFNA1 phosphorylates CDK5 at 'Tyr-15' which in turn phosphorylates NGEF regulating RHOA and dendritic spine morphogenesis (PubMed:17143272). In the nervous system, also plays a role in repair after injury preventing axonal regeneration and in angiogenesis playing a role in central nervous system vascular formation (PubMed:15537875, PubMed:16802330). Additionally, its promiscuity makes it available to participate in a variety of cell-cell signaling regulating for instance the development of the thymic epithelium (PubMed:16818734). During development of the cochlear organ of Corti, regulates pillar cell separation by forming a ternary complex with ADAM10 and CADH1 which facilitates the cleavage of CADH1 by ADAM10 and disruption of adherens junctions (PubMed:30639848). Phosphorylates CAPRIN1, promoting CAPRIN1-dependent formation of a membraneless compartment (PubMed:31439799).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, axon. Cell projection, dendrite. Postsynaptic density membrane. Early endosome. Cell junction, adherens junction Note=Clustered upon activation and targeted to early endosome
Tissue Location	Expressed in inner and outer pillar cells of the organ of Corti (at protein level) (PubMed:30639848). Highest expression in the adult brain and retina and also detectable in kidney, lung, skeletal muscle and thymus. Not detected in heart and liver. Expressed in myogenic progenitor cells (PubMed:27446912)

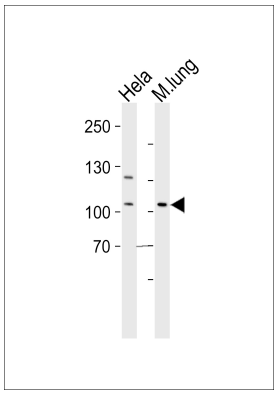
Background

Receptor tyrosine kinase which binds membrane-bound ephrin 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. Highly promiscuous, it has the unique property among Eph receptors to bind and to be physiologically activated by both GPI-anchored ephrin-A and transmembrane ephrin-B ligands including EFNA1 and EFNB3. Upon activation by ephrin ligands, modulates cell morphology and integrin-dependent cell adhesion through regulation of the Rac, Rap and Rho GTPases activity. Plays an important role in the development of the nervous system controlling different steps of axonal guidance including the establishment of the corticospinal projections. May also control the segregation of motor and sensory axons during neuromuscular circuit development. Beside its role in axonal guidance plays a role in synaptic plasticity. Activated by EFNA1 phosphorylates CDK5 at 'Tyr-15' which in turn phosphorylates NGEF regulating RHOA and dendritic spine morphogenesis. In the nervous system, plays also a role in repair after injury preventing axonal regeneration and in angiogenesis playing a role in central nervous system vascular formation. Additionally, its promiscuity makes it available to participate in a variety of cell-cell signaling regulating for instance the development of the thymic epithelium.

References

Gilardi-Hebenstreit P.,et al.Oncogene 7:2499-2506(1992).
Gilardi-Hebenstreit P.,et al.Oncogene 8:1103-1103(1993).
Carninci P.,et al.Science 309:1559-1563(2005).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Ellis C.,et al.Oncogene 12:1727-1736(1996).

Images



Western blot analysis of lysates from Hela cell line and mouse lung tissue lysate(from left to right), using Mouse Epha4 Antibody (Center)(Cat. #AP20760c). AP20760c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

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