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EphA4 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1183a

Specification

EphA4 Antibody - Product Information

Application	**WB**
Primary Accession	P54764
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**

Description
EphA4: EPH receptor A4. This gene belongs to the ephrin receptor subfamily of the protein-tyrosine kinase family. EPH and EPH-related receptors have been implicated in mediating developmental events, particularly in the nervous system. Receptors in the EPH subfamily typically have a single kinase domain and an extracellular region containing a Cys-rich domain and 2 fibronectin type III repeats. The ephrin 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.

Immunogen
Purified recombinant fragment of EphA4 (aa777-986) expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

EphA4 Antibody - Additional Information

Gene ID 2043

Other Names
Ephrin type-A receptor 4, 2.7.10.1, EPH-like kinase 8, EK8, hEK8, Tyrosine-protein kinase TYRO1, Tyrosine-protein kinase receptor SEK, EPHA4, HEK8, SEK, TYRO1

Dilution
WB~~1/500 - 1/2000

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
EphA4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

EphA4 Antibody - Protein Information

Name EPHA4

Synonyms HEK8, SEK, TYRO1

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. 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. 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. 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. Additionally, its promiscuity makes it available to participate in a variety of cell-cell signaling regulating for instance the development of the thymic epithelium. 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 (By similarity). Phosphorylates CAPRIN1, promoting CAPRIN1-dependent formation of a membraneless compartment (By similarity).

Cellular Location
Cell membrane {ECO:0000250|UniProtKB:Q03137}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q03137} Cell projection, axon {ECO:0000250|UniProtKB:Q03137}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q03137}. Postsynaptic density membrane {ECO:0000250|UniProtKB:Q03137}. Early endosome {ECO:0000250|UniProtKB:Q03137}. Cell junction, adherens junction {ECO:0000250|UniProtKB:Q03137}. Note=Clustered upon activation and targeted to early endosome. {ECO:0000250|UniProtKB:Q03137}

Tissue Location
Ubiquitous..

EphA4 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

EphA4 Antibody - Images

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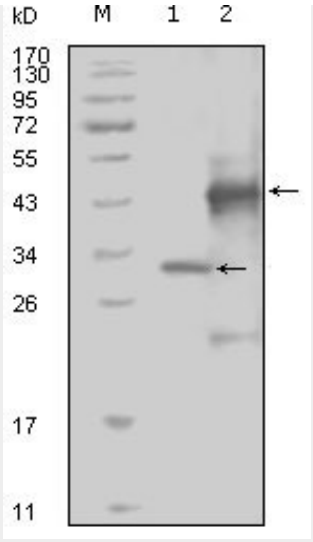


Figure 1: Western blot analysis using EphA4 mouse mAb against truncated Trx-EphA4 recombinant protein (1) and truncated GST-EphA4(aa777-986) recombinant protein (2).

EphA4 Antibody - References

1. Mol Cell Neurosci. 2000 Oct;16(4):365-75. 2. Nat Rev Neurosci. 2001 Mar;2(3):155-64. 3. Eur J Neurosci. 2002 Sep;16(6):1168-72.