

Mouse Epha4 Blocking Peptide (Center)
Synthetic peptide
Catalog # BP20760c**Specification**

Mouse Epha4 Blocking Peptide (Center) - Product Information

Primary Accession [Q03137](#)
Other Accession [P54764](#)

Mouse Epha4 Blocking Peptide (Center) - 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

The synthetic peptide sequence is selected from aa 309-322 of HUMAN Epha4

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Epha4 Blocking Peptide (Center) - 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 EFN3. 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:<a

[9789074](http://www.uniprot.org/citations/9789074), PubMed: [17719550](http://www.uniprot.org/citations/17719550), PubMed: [17785183](http://www.uniprot.org/citations/17785183)). May also control the segregation of motor and sensory axons during neuromuscular circuit development (PubMed: [18403711](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15537875), PubMed: [16802330](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/30639848)). Phosphorylates CAPRIN1, promoting CAPRIN1- dependent formation of a membraneless compartment (PubMed: [31439799](http://www.uniprot.org/citations/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)

Mouse Epha4 Blocking Peptide (Center) - Protocols

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

- [Blocking Peptides](#)

Mouse Epha4 Blocking Peptide (Center) - Images

Mouse Epha4 Blocking Peptide (Center) - 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 EFNAB3. 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.

Mouse Epha4 Blocking Peptide (Center) - References

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