EPHA4 Blocking Peptide (Center) Blocking Peptide

PRODUCT OVERVIEW

Product Name	EPHA4, Blocking Peptide
Full Product Name	EPHA4 Blocking Peptide (Center)
Product Gene Name	EPHA4 blocking peptide
Product Synonym Gene Name	HEK8; SEK; TYRO1
Product Synonym Names	Ephrin type-A receptor 4; EPH-like kinase 8; EK8; hEK8; Tyrosine-protein kinase TYRO1; Tyrosine-protein kinase receptor SEK; EPHA4; HEK8; SEK; TYRO1
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 1 mg/ml.
Specificity	The synthetic peptide sequence is selected from aa 383-397 of HUMAN EPHA4
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	EPHA4 peptide (MBS9229533) is used for blocking the activity of EPHA4 antibody (MBS9215202)
Molecular Weight	104,507 Da
OMIM	602188
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, axon. Cell projection, dendrite. Cell junction, synapse, postsynaptic cell membrane, postsynaptic density. Early endosome Note: Clustered upon activation and targeted to early endosome
Tissue Location	Ubiquitous.
Related Product Information for EPHA4 blocking peptide	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, 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.
Other Notes	Small volumes of EPHA4 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for EPHA4 purchase	MBS9229533 is a blocking peptide targeting EPHA4. Also known as EPHA4 Blocking Peptide (Center).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for EPHA4. It may not necessarily be applicable to this product.

NCBI GI #	1711371
NCBI GeneID	2043

NCBI Accession #	P54764.1
UniProt Primary Accession #	P54764
UniProt Secondary Accession #	Q2M380; A8K2P1; B2R601; B7Z6Q8
UniProt Related Accession #	P54764
NCBI Official Full Name	Ephrin type-A receptor 4
NCBI Official Synonym Full Names	EPH receptor A4
NCBI Official Symbol	EPHA4
NCBI Official Synonym Symbols	SEK; HEK8; TYRO1
UniProt Protein Name	Ephrin type-A receptor 4
UniProt Synonym Protein Names	EPH-like kinase 8; EK8; hEK8; Tyrosine-protein kinase TYRO1; Tyrosine-protein kinase receptor SEK
Protein Family	Ephrin type-A receptor
UniProt Gene Name	EPHA4
UniProt Synonym Gene Names	HEK8; SEK; TYRO1; EK8; hEK8
UniProt Entry Name	EPHA4_HUMAN
NCBI Protein Information	ephrin type-A receptor 4
NCBI Summary for EPHA4	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. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2015]
UniProt Comments for EPHA4	EphA4: a tyrosine kinase receptor of the Eph family. Receptor for members of the ephrin-A family. Binds to ephrin-A1, -A4 and -A5. Binds more poorly to ephrin-A2 and -A3. May play a role in hindbrain pattern formation. The Eph receptor tyrosine kinase family, the largest in the tyrosine kinase group, has fourteen members. They bind membrane-anchored ligands, ephrins, at sites of cell-cell contact, regulating the repulsion and adhesion of cells that underlie the establishment, maintenance, and remodeling of patterns of cellular organization. Eph signals are particularly important in regulating cell adhesion and cell migration during development, axon guidance, homeostasis and disease. EphA receptors bind to GPI-anchored ephrin-A ligands, while EphB receptors bind to ephrin-B proteins that have a transmembrane and cytoplasmic domain. Interactions between EphB receptor kinases and ephrin-B proteins transduce signals bidirectionally, signaling to both interacting cell types. Eph receptors and ephrins also regulate the adhesion of endothelial cells and are required for the remodeling of blood vessels. Protein type: Protein kinase, tyrosine (receptor); Membrane protein, integral; Protein kinase, TK; Kinase, protein; EC 2.7.10.1; TK group; Eph family Chromosomal Location of Human Ortholog: 2q36.1 Cellular Component: axon; cytoplasm; dendrite; early endosome membrane; integral to plasma membrane; plasma membrane Molecular Function: GPI-linked ephrin receptor activity; PH domain binding; protein binding; protein kinase activity; transmembrane-ephrin receptor activity Biological Process: corticospinal tract morphogenesis; ephrin receptor signaling pathway; motor axon guidance; negative regulation of axon regeneration; peptidyl-tyrosine phosphorylation; protein amino acid autophosphorylation; regulation of astrocyte differentiation; regulation of axonogenesis; regulation of GTPase activity
Research Articles on EPHA4	**1.** The signaling complex appears to integrate the input from FGFR and EphA4, and release the output signal through FRS2alpha.

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