10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

phospho-EphB1+EphB2 (Tyr594) Rabbit pAb

Catalog # AP99951

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P54762
Other Accession	P54762
Reactivity	Human
Predicted	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	109885
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human EphB1+EphB2 around the phosphorylation site of Tyr594
Epitope Specificity	KI(p-Y)ID
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. Tyr protein kinase family. Ephrin receptor subfamily. Contains 1 Eph LBD (Eph ligand-binding) domain. Contains 2 fibronectin type-III domains. Contains 1 protein kinase domain. Contains 1 SAM (sterile alpha motif) domain.
SUBUNIT	Heterotetramer upon binding of the ligand. The heterotetramer is composed of an ephrin dimer and a receptor dimer. Oligomerization is probably required to induce biological responses. Interacts with EPHB6; transphosphorylates EPHB6 to form an active signaling complex. Interacts with PICK1. Interacts (through Tyr-594) with NCK1 (via SH2 domain); activates the JUN cascade to regulate cell adhesion. The ligand-activated form interacts (through Tyr-928) with GRB7 and GRB10 (via SH2 domains). The ligand-activated form interacts (residues within the catalytic domain) with GRB2 (via SH2 domain). Interacts with GRB2, SHC1 and SRC; activates the MAPK/ERK cascade to regulate cell migration. Interacts with CBL; regulates receptor degradation through ubiquitination. Interacts with ACP1.
Post-translational modifications	Phosphorylated. Autophosphorylation is stimulated by the ligand EFNB1. Required for interaction with SH2 domain-containing interactors, for activation of the MAPK/ERK and JUN signaling cascades and for ubiquitination by CBL.Ubiquitinated; (EFNB1)ligand-induced poly- and/or multi-ubiquitination by CBL is regulated by SRC and leads to lysosomal degradation.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Ephrin receptors bind members of the ephrin ligand family. They 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. They make up the largest subgroup of the receptor tyrosine kinase (RTK) family. Eph receptor B1 (EphB1) and Eph receptor B2 (EphB2) are receptors for ephrin-B family members. Developing and adult neural tissue express nearly all of the Ephrin receptors and ephrin ligands. Ephrins and ephrin receptors also play a

significant role in angiogenesis. EphB2 acts as a tumor suppressor.

Additional Information

Gene ID	2047
Other Names	ELK; EPHT2; Hek6; NET; 9330129L11; C130099E04Rik; Cek6; Elkh; Ephb2; Erk; EPHB1_HUMAN; EPHB1; EPH tyrosine kinase 2; EPH-like kinase 6 (EK6 | hEK6); Neuronally-expressed EPH-related tyrosine kinase (NET); Tyrosine-protein kinase receptor EPH-2; 2.7.10.1; EPHB1_MOUSE; EPHB1_RAT; Epth2; EPH receptor B1; EphB1 & EphB2 (phospho-Y594); p-EphB1 & EphB2; phospho-EphB1 & EphB2; EphB1 & EphB2 (phospho-Tyr594)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	EPHB1
Synonyms	ELK, EPHT2, HEK6, NET
Function	Receptor tyrosine kinase which binds promiscuously transmembrane ephrin-B 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. Cognate/functional ephrin ligands for this receptor include EFNB1, EFNB2 and EFNB3. During nervous system development, regulates retinal axon guidance redirecting ipsilaterally ventrotemporal retinal ganglion cells axons at the optic chiasm midline. This probably requires repulsive interaction with EFNB2. In the adult nervous system together with EFNB3, regulates chemotaxis, proliferation and polarity of the hippocampus neural progenitors. In addition to its role in axon guidance also plays an important redundant role with other ephrin-B receptors in development and maturation of dendritic spines and synapse formation. May also regulate angiogenesis. More generally, may play a role in targeted cell migration and adhesion. Upon activation by EFNB1 and probably other ephrin-B ligands activates the MAPK/ERK and the JNK signaling cascades to regulate cell migration and adhesion respectively. Involved in the maintenance of the pool of satellite cells (muscle stem cells) by promoting their self-renewal and reducing their activation and differentiation (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein Early endosome membrane. Cell projection, dendrite {ECO:0000250|UniProtKB:Q8CBF3}
Tissue Location	Preferentially expressed in brain.

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