

EphA4 Protein, Rat (HEK293, His)

Cat. No.:	HY-P75238
Synonyms:	Ephrin type-A receptor 4; EPH-like kinase 8; EK8; EPHA4; HEK8; SEK; TYRO1
Species:	Rat
Source:	HEK293
Accession:	D3ZZK3 (V20-T547)
Gene ID:	316539
Molecular Weight:	Approximately 70-80 kDa

PROPERTIES

AA Sequence	<pre> VTGSRVYPAN EVTLLDSRSV QGELGWIASP LEGGWEEVSI MDEKNTPIRT YQVCNVMEAS QNNWLRTDWI TREGAQRVYI EIKFTLRDCN SLPGVMGTCK ETFNLYYYES DNDKERFIRE SQFGKIDTIA ADESFTQVDI GDRIMKLNTE IRDVGPLSKK GFYLAFAQDVG ACIALVSVRV FYKKCPLTVR NLAQFPDTIT GADTSSLVEV RGS CVN NSEE KDVPKMYCGA DGEWLVPIGN CLCNAGHEEQ NGECQACKIG YYKALSTDAT CAKCPPHSYS VWEGATSCCTC DRGFFRADND AASMPCTRPP SAPLNLI SNV NETSVNLEWS SPQNTGGRQD ISYNVVCKKC GAGDPSKCRP CGSGVHYTPQ QNGLKTTTRS ITDLLAHTNY TFEIWAVNGV SKYNPSPDQS VSVTVTTNQA APSSIALVQA KEVTRYSVAL AWLEPDRPNG VILEYEVKYY EKDQNERSYR IVRTAARNTD IKGLNPLTSY VFHVRARTAA GYGDFSEPLE VTTNTVPSRI IGDGANST </pre>
Biological Activity	Immobilized recombinant Rat EPHA4 Protein at 2 µg/mL (100 µL/well) can bind Recombinant rat EFNA5, The ED ₅₀ for this effect is 35.43 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

EphA4, a receptor tyrosine kinase, engages in contact-dependent bidirectional signaling with membrane-bound ephrin family ligands on adjacent cells. Distinguished by its high promiscuity, EphA4 uniquely binds and is physiologically activated by both GPI-anchored ephrin-A and transmembrane ephrin-B ligands, including EFNA1 and EFNB3. Upon activation by ephrin ligands, EphA4 modulates cell morphology and integrin-dependent cell adhesion through the regulation of Rac, Rap, and Rho GTPases activity. Crucial in the development of the nervous system, EphA4 controls various steps of axonal guidance, including the establishment of corticospinal projections and the segregation of motor and sensory axons during neuromuscular circuit development. In synaptic plasticity, EphA4 participates by phosphorylating CDK5 at 'Tyr-15,' leading to the regulation of RHOA and dendritic spine morphogenesis. Furthermore, EphA4 plays roles in repair after injury by preventing axonal regeneration and in angiogenesis, contributing to central nervous system vascular formation. Its promiscuity extends its involvement in various cell-cell signaling processes, regulating the development of the thymic epithelium and, during the development of the cochlear organ of Corti, facilitating pillar cell separation through the formation of a ternary complex with ADAM10 and CADH1, leading to the cleavage of CADH1 and disruption of adherens junctions. EphA4 also phosphorylates CAPRIN1, promoting CAPRIN1-dependent formation of a membraneless compartment [1][2][3][4].

Caution: Product has not been fully validated for medical applications. For research use only.

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