Data Sheet (Cat.No.TMPY-04485)

TargetMol

EphA4 Protein, Human, Recombinant (aa 570-986, His & GST)

General Information

Synonyms:	EPH receptor A4;TYRO1;HEK8;SEK
Protein Construction:	A DNA sequence encoding the human EPHA4 (P54764) (Ser570-Val986) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P54764
Molecular Weight:	75 kDa (predicted); 67 kDa (reducing conditions)

QC Testing

Biological Activity:	1. The specific activity was determined to be 17 nmol/min/mg using Poly(Glu:Tyr) 4:1 as substrate. 2. Measured by its binding ability in a functional ELISA. Immobilized human EPHA4 (aa 570-986) at 10 μg/ml (100 μl/well) can bind biotinylated human EphrinA5-His with a linear range of 0.625-5.0 μg/ml.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, pH 8.5, 10% glycerol, 3 mM DTT.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Shipping:

Shipping with blue ice.

Protein Background

EPH receptor A4 (ephrin type-A receptor 4), also known as EphA4, belongs to the ephrin receptor subfamily of the protein-tyrosine kinase family which 16 known receptors (14 found in mammals) are involved: EPHA1, EPHA2, EPHA3, EPHA4, EPHA5, EPHA6, EPHA7, EPHA8, EPHA9, EPHA10, EPHB1, EPHB2, EPHB3, EPHB4, EPHB5, EPHB6. The Eph family of receptor tyrosine kinases (comprising EphA and EphB receptors) has been implicated in synapse formation and the regulation of synaptic function and plasticity6. EphA4 is enriched on dendritic spines of pyramidal neurons in the adult mouse hippocampus, and ephrin-A3 is localized on astrocytic processes that

envelop spines. Eph receptor–mediated signaling, which is triggered by ephrins7, probably modifies the properties of synapses during synaptic activation and remodeling. Ephrin receptors are components of cell signalling pathways involved in animal growth and development, forming the largest sub-family of receptor tyrosine kinases (RTKs). The extracellular domain of an EphA4 interacts with ephrin ligands, which may be tethered to neighbouring cells. Ligand-mediated activation of Ephs induces various important downstream effects and Eph receptors have been studied for their potential roles in the development of cancer.

Reference

Murai KK,et al.(2003) Control of hippocampal dendritic spine morphology through ephrin-A3/EphA4 signaling. Nat Neurosci. 6(2): 153-60.

Kullander K,et al.(2003) Role of EphA4 and EphrinB3 in local neuronal circuits that control walking. Science. 299 (5614): 1889-92.

Smith A,et al.(1997) The EphA4 and EphB1 receptor tyrosine kinases and ephrin-B2 ligand regulate targeted migration of branchial neural crest cells. Curr Biol. 7(8): 561-70.