Data Sheet (Cat.No.TMPY-01067)

TargetMol

EphB2 Protein, Human, Recombinant (His)

General Information

Synonyms:	EPH receptor B2;DRT;EK5;PCBC;ERK;CAPB;EPHT3;Hek5;Tyro5
Protein Construction:	Val19-Leu543
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P29323-1
Molecular Weight:	59.2 kDa (predicted); 65-75 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Human EPHB2, His Tag at 2 μg/ml (100 μl/well) on the plate. Dose response curve for Human Ephrin-B2, hFc Tag with the EC50 of 2.2 ng/ml determined by ELISA (QC Test). Immobilized Human EPHB2, His Tag at 0.5 μg/ml (100 μl/Well) on the plate. Dose response curve for Anti-EPHB2 Antibody, hFc Tag with the EC50 of 8.0 ng/ml determined by ELISA. Human Ephrin-B2, hFc Tag captured on CM5 Chip via Protein A can bind Human EPHB2, His Tag with an affinity constant of 82.97 pM as determined in SPR assay (Biacore T200).
Purity:	> 95% as determined by Bis-Tris PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Ephrin type-B receptor 2, also known as EphB2, 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. EphB2 receptor tyrosine kinase phosphorylates syndecan-2 and that this phosphorylation event is crucial for syndecan-2 clustering and spine formation. 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. Ephrin receptors are components of cell signalling pathways involved in animal growth and development, forming the largest sub-family of receptor tyrosine kinases (RTKs). 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. EphB receptor tyrosine kinases are enriched at synapses, suggesting that these receptors play a role in synapse formation or function. We find that EphrinB binding to EphB induces a direct interaction of EphB with NMDA-type glutamate receptors. This interaction occurs at the cell surface and is mediated by the extracellular regions of the two receptors, but does not require the kinase activity of EphB.

Reference

Zisch AH,et al.(1998) Complex formation between EphB2 and Src requires phosphorylation of tyrosine 611 in the EphB2 juxtamembrane region. Oncogene. 16 (20): 2657-70.

Yu HH,et al.(2001) Multiple signaling interactions of Abl and Arg kinases with the EphB2 receptor. Oncogene. 20 (30): 3995-4006.

Zisch AH,et al.(2000) Replacing two conserved tyrosines of the EphB2 receptor with glutamic acid prevents binding of SH2 domains without abrogating kinase activity and biological responses. Oncogene. 19 (2): 177-87.