Data Sheet (Cat.No.TMPY-03826)

TargetMol

EphB1 Protein, Rhesus, Recombinant (hFc)

General Information

Synonyms:	EPH receptor B1
Protein Construction:	A DNA sequence encoding the rhesus EPHB1 (XP_001115263.1) (Met1-Pro540) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Met 18
Species:	Rhesus
Expression Host:	HEK293 Cells
Accession:	A0A1D5QF63
Molecular Weight:	85.4 kDa (predicted)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized Human Ephrin-B1 His at 2 μg/ml (100 μl/well) can bind Rhesus EphB1 hFc, the EC50 of Rhesus EphB1 hFc is 4.0-20.0 ng/mL.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

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 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 1, also known as EphB1, 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

Dalva MB, et al. (2000) EphB receptors interact with NMDA receptors and regulate excitatory synapse formation. Cell. 103(6): 945-56.

Takasu MA, et al. (2002) Modulation of NMDA receptor-dependent calcium influx and gene expression through EphB receptors. Science. 295(5554): 491-5.

Adams RH, et al. (1999) Roles of ephrinB ligands and EphB receptors in cardiovascular development: demarcation of arterial/venous domains, vascular morphogenesis, and sprouting angiogenesis. Genes Dev. 13(3): 295-306.