

# Human EphB1 / EPHT2 Protein (aa 565-984, His & GST Tag)

Catalog Number: 11963-H20B1



**Sino Biological Inc.**  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

ELK; EPHT2; Hek6; NET; 9330129L11; AW488255; C130099E04Rik; Cek6; Elk; Elkh; ENSMUSG00000074119; Hek6; Net

### Protein Construction:

A DNA sequence encoding the human EPHB1 (AAI11745.1) (Arg565-Ala984) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

**Source:** Human

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

**The specific activity was determined to be 140 nmol/min/mg using Poly(Glu:Tyr) 4:1 as substrate.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant human EPHB1 /GST chimera consists of 657 amino acids and has a calculated molecular mass of 75.3 kDa. The recombinant protein migrates as an approximately 66 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, 3mM DTT, pH 8.0, 10% gly

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

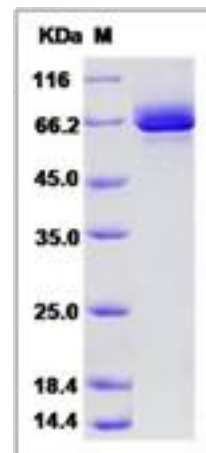
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

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 plasticity<sup>6</sup>. 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 induce 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.

## References

1. Dalva MB, *et al.* (2000) EphB receptors interact with NMDA receptors and regulate excitatory synapse formation. *Cell*. 103(6): 945-56.
2. Takasu MA, *et al.* (2002) Modulation of NMDA receptor-dependent calcium influx and gene expression through EphB receptors. *Science*. 295(5554): 491-5.
3. 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.

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