

## EphB1 Protein, Rhesus Macaque (HEK293, His)

Cat. No.:	HY-P77360
Synonyms:	Ephrin type-B receptor 1; ELK; EK6; NET; EPHB1; EPHT2; HEK6
Species:	Rhesus Macaque
Source:	HEK293
Accession:	XP_001115263 (M18-P540)
Gene ID:	717211
Molecular Weight:	Approximately 59.9 kDa.

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 $\mu$ m 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/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> 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

EphB1, a tyrosine kinase receptor, was promiscuously bound to the transmembrane ligand ephrin-B family on adjacent cells, initiating contact-dependent bidirectional signaling. The downstream signaling pathway originating from the receptor is called the forward signaling pathway, while the downstream signaling pathway for ephrin ligands is called the reverse signaling pathway. The homologous/functional ligands of this receptor include EFNB1, EFNB2 and EFNB3. In nervous system development, EphB1 regulates retinal axon guidance by redirecting the axons of ventral temporal retinal ganglion cells on the ipsilateral midline of the optic crossover, possibly through repulsive interactions with EFNB2. In the adult nervous system, EphB1, together with EFNB3, controls the chemotaxis, proliferation, and polarity of hippocampal neural progenitors. In addition to axonal guidance, EphB1 also plays a crucial redundant role with other ephrin-B receptors in the development and maturation of dendritic spines and the formation of synapses. EphB1 may regulate angiogenesis and play a role in targeting cell migration and adhesion. After being activated by EFNB1 and other possible ephrin-B ligands, EphB1 activated the MAPK/ERK and JNK signaling cascades, regulating cell migration and adhesion, respectively. EphB1 is involved in maintaining the pool of satellite cells (muscle stem cells) by promoting self-renewal of satellite cells (muscle stem cells) and reducing their activation and differentiation. EphB1 promotes differentiation and maturation of dendritic cells in non-

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small cell lung cancer<sup>[1][2][3][4]</sup>.

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

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