# EphB1 Protein, Human (HEK293, Fc)

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| **Cat. No.:** | HY-P70381 |
| **Synonyms:** | rHuEphrin type-B receptor 1/EphB1, Fc; Ephrin Type-B Receptor 1; ELK; EPH Tyrosine Kinase 2; EPH-Like Kinase 6; EK6; hEK6; Neuronally-Expressed EPH; Related Tyrosine Kinase; NET; Tyrosine-Protein Kinase Receptor EPH-2; EPHB1; ELK; EPHT2; HEK6 |
| **Species:** | Human |
| **Source:** | HEK293 |
| **Accession:** | P54762 (M18-P540) |
| **Gene ID:** | 2047 |
| **Molecular Weight:** | 85-100 kDa |

## PROPERTIES

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| **AA Sequence** | M E E T L M D T R T A T A E L G W T A N P A S G W E E V S G Y D E N L N T I R T<br>Y Q V C N V F E P N Q N N W L L T T F I N R R G A H R I Y T E M R F T V R D C S<br>S L P N V P G S C K E T F N L Y Y Y E T D S V I A T K K S A F W S E A P Y L K V<br>D T I A A D E S F S Q V D F G G R L M K V N T E V R S F G P L T R N G F Y L A F<br>Q D Y G A C M S L L S V R V F F K K C P S I V Q N F A V F P E T M T G A E S T S<br>L V I A R G T C I P N A E E V D V P I K L Y C N G D G E W M V P I G R C T C K P<br>G Y E P E N S V A C K A C P A G T F K A S Q E A E G C S H C P S N S R S P A E A<br>S P I C T C R T G Y Y R A D F D P P E V A C T S V P S G P R N V I S I V N E T S<br>I I L E W H P P R E T G G R D D V T Y N I I C K K C R A D R R S C S R C D D N V<br>E F V P R Q L G L T E C R V S I S S L W A H T P Y T F D I Q A I N G V S S K S P<br>F P P Q H V S V N I T T N Q A A P S T V P I M H Q V S A T M R S I T L S W P Q P<br>E Q P N G I I L D Y E I R Y Y E K E H N E F N S S M A R S Q T N T A R I D G L R<br>P G M V Y V V Q V R A R T V A G Y G K F S G K M C F Q T L T D D D Y K S E L R E<br>Q L P |
| **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 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, pH 8.0. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | It is not recommended to reconstitute to a concentration less than 100 μg/mL in $ddH_2O$. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose). |
| **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

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| **Background** | The EphB1 protein, a receptor tyrosine kinase, engages in promiscuous binding to transmembrane ephrin-B family ligands on adjacent cells, initiating contact-dependent bidirectional signaling. The downstream pathway originating from the receptor is known as forward signaling, while the signaling pathway downstream of the ephrin ligand is termed reverse signaling. Cognate/functional ephrin ligands for this receptor include EFNB1, EFNB2, and EFNB3. In nervous system development, EphB1 regulates retinal axon guidance by redirecting ipsilaterally ventrotemporal retinal ganglion cell axons at the optic chiasm midline, likely through repulsive interaction with EFNB2. In the adult nervous system, in conjunction with EFNB3, EphB1 governs chemotaxis, proliferation, and polarity of hippocampal neural progenitors. Beyond its role in axon guidance, EphB1 plays a crucial redundant role with other ephrin-B receptors in the development and maturation of dendritic spines and synapse formation. Additionally, EphB1 may regulate angiogenesis and, more generally, play a role in targeted cell migration and adhesion. Upon activation by EFNB1 and possibly other ephrin-B ligands, EphB1 activates the MAPK/ERK and JNK signaling cascades to regulate cell migration and adhesion, respectively. Moreover, EphB1 is involved in maintaining the pool of satellite cells (muscle stem cells) by promoting their self-renewal and reducing their activation and differentiation. |



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