# EPHB1 siRNA – Ephrin Type-B Receptor 1 (Human)

## PRODUCT OVERVIEW

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| **Product Name** | EPHB1, siRNA |
| **Full Product Name** | EPHB1 siRNA (Human) |
| **Product Gene Name** | EPHB1 sirna |
| **Product Synonym Names** | ELK; EPHT2; HEK6; NET; 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 |
| **Host** | Synthetic |
| **Species Reactivity** | Human |
| **Form/Format** | Lyophilized powder |
| **Purity/Purification** | > 97% |
| **Specificity** | EPHB1 siRNA (Human) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression. |
| **Preparation and Storage** | Shipped at 4 degree C. Store at -20 degree C for one year. |
| **Molecular Weight** | 26,906 Da |
| **OMIM** | 600600 |
| **3D Structure** | ModBase 3D Structure for P54762 |
| **Negative Control** | siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection. |
| **Quality Control** | Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency. |
| **Directions for Use** | We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well). |
| **Components** | We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of human EPHB1 gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo. |
| **Applications Tested/Suitable for EPHB1 sirna** | RNA Interference (RNAi) |
| **Related Product Information for EPHB1 sirna** | MBS8234135 is an siRNA targeting EPHB1. Also known as EPHB1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit EPHB1 expression using RNA interference |
| **Other Notes** | Small volumes of EPHB1 sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for EPHB1. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 4758284 |
| **NCBI GeneID** | 2047 |
| **NCBI Accession #** | NP_004432.1 |
| **UniProt Primary Accession #** | P54762 |
| **UniProt Secondary Accession #** | O43569; O95142; O95143; Q0VG87; A8K593; B3KTB2; B5A969 |
| **UniProt Related Accession #** | P54762 |
| **GenBank Nucleotide #** | NM_004441.4 |
| **NCBI Official Full Name** | ephrin type-B receptor 1 |
| **NCBI Official Synonym Full Names** | EPH receptor B1 |
| **NCBI Official Symbol** | EPHB1 |
| **NCBI Official Synonym Symbols** | ELK; NET; Hek6; EPHT2 |
| **UniProt Protein Name** | Ephrin type-B receptor 1 |
| **UniProt Synonym Protein Names** | ELK; EPH tyrosine kinase 2; EPH-like kinase 6; EK6; hEK6; Neuronally-expressed EPH-related tyrosine kinase; NET; Tyrosine-protein kinase receptor EPH-2 |
| **Protein Family** | Ephrin type-B receptor |
| **UniProt Gene Name** | EPHB1 |
| **UniProt Synonym Gene Names** | ELK; EPHT2; HEK6; NET; EK6; hEK6; NET |
| **UniProt Entry Name** | EPHB1_HUMAN |
| **NCBI Protein Information** | ephrin type-B receptor 1 |
| **NCBI Summary for EPHB1** | Ephrin receptors and their ligands, the ephrins, mediate numerous developmental processes, particularly in the nervous system. Based on their structures and sequence relationships, ephrins are divided into the ephrin-A (EFNA) class, which are anchored to the membrane by a glycosylphosphatidylinositol linkage, and the ephrin-B (EFNB) class, which are transmembrane proteins. The Eph family of receptors are divided into 2 groups based on the similarity of their extracellular domain sequences and their affinities for binding ephrin-A and ephrin-B ligands. Ephrin receptors make up the largest subgroup of the receptor tyrosine kinase (RTK) family. The protein encoded by this gene is a receptor for ephrin-B family members. [provided by RefSeq, Jul 2008] |

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| **UniProt Comments for EPHB1** | EphB1: a receptor tyrosine kinase of the Eph family. Receptor for members of the ephrin-B family: ephrin-B1, -B2 and -B3. The Eph receptor tyrosine kinase family, the largest in the tyrosine kinase group, has fourteen members. They bind membrane-anchored ligands, ephrins, at sites of cell-cell contact, regulating the repulsion and adhesion of cells that underlie the establishment, maintenance, and remodeling of patterns of cellular organization. Eph signals are particularly important in regulating cell adhesion and cell migration during development, axon guidance, homeostasis and disease. EphA receptors bind to GPI-anchored ephrin-A ligands, while EphB receptors bind to ephrin-B proteins that have a transmembrane and cytoplasmic domain. Interactions between EphB receptor kinases and ephrin-B proteins transduce signals bidirectionally, signaling to both interacting cell types. Eph receptors and ephrins also regulate the adhesion of endothelial cells and are required for the remodeling of blood vessels. The ligand-activated form of EphB1 interacts with GRB2, GRB10 and NCK through their respective SH2 domains. Four alternatively spliced isoforms are known.<br><br>Protein type: Kinase, protein; Membrane protein, integral; Protein kinase, TK; Protein kinase, tyrosine (receptor); EC 2.7.10.1; TK group; Eph family<br><br>Chromosomal Location of Human Ortholog: 3q21-q23<br><br>Cellular Component: integral to plasma membrane; axon; early endosome membrane; dendrite; plasma membrane; extracellular region; cytosol; lipid raft<br><br>Molecular Function: protein binding; transmembrane-ephrin receptor activity; axon guidance receptor activity; ATP binding<br><br>Biological Process: axon guidance; peptidyl-tyrosine phosphorylation; protein amino acid autophosphorylation; central nervous system projection neuron axonogenesis; optic nerve morphogenesis; regulation of JNK cascade; cell-substrate adhesion; positive regulation of synaptogenesis; camera-type eye morphogenesis; neurogenesis; establishment of cell polarity; ephrin receptor signaling pathway; angiogenesis; detection of temperature stimulus involved in sensory perception of pain; retinal ganglion cell axon guidance |
| **Research Articles on EPHB1** | **1.** Our results indicate that EphB1 may be involved in carcinogenesis of renal cell carcinoma |
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