

Product datasheet for **MG226017**

Ephb1 (NM_001168296) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ephb1 (NM_001168296) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ephb1
Synonyms:	9330129L11; AW488255; C130099E04Rik; Cek6; Elk; Elkh; ENSMUSG00000074119; Hek6; Net
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG226017 representing NM_001168296
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCCCTGGATTGCTTGCTGCTCTTCCTCCTGGCATCTGCAGTGCCCGCATGGAAGAGACATTGATGG
 ACACAAGGACAGCCACTGCAGAGTTGGGATGGACGGCCAACCCTGCCTCTGGGTGGGAAGAAGTCAGTGG
 CTATGATGAAAACCTGAACACCATCCGTA CTACCAAGTGTGCAACGTCTTCGAACCCAACCAGAACAAC
 TGGCTGCTTACCACCTTTATCAACAGAAGGGGCGCCCATCGCATCTATACAGAGATGCGCTTCACTGTGA
 GGGACTGCAGCAGCCTTCCAATGTCCCAGGCTCCTGCAAGGAGACCTTCAACTTGTACTACTATGAGAC
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 GCTGCAGATGAGAGCTTCTCCAGGTGGATTTTGGGGAAAGTTGATGAAAGTCAACACGGAAAGTCAGGA
 GCTTTGGGCTCTTACTAGGAACGGTTTTTACCTCGCTTCCAGGATTATGGAGCCTGTATGTCTCTCTCT
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 ACAGGAGCAGAGACACATCTCTGGTGATTGCTCGGGGCACATGCATCCCAAATGCGGAAGAAGTGGATG
 TGCCCATAAAACCTACTGCAACGGAGATGGAGAGTGGATGGTGGCCATTGGGCGCTGTACTGTAAAGCC
 TGGCTATGAGCCTGAGAACAGCGTGGCCTGCAAGGCCTGTCTGCGGGGACCTTCAAGGCCAGCCAGGAA
 GCTGAAGGCTGCTCCACTGCCCTCCAACAGTCGCTCCCTTCAGAGCGTCTCCCATCTGCACCTGCC
 GGACTGGCTATTACCGAGCTGACTTTGATCCACAGAGGTGGCGTGTACTAGTGTCCCATCGGGTCTCG
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 GCACGTATCGATGGGCTACGGCTGGCATGGTATACGTGGTCCAGGTGCGAGCTCGAACCGTGGCTGGCT
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 GGCCATCAAGACCTGAAGGCTGGTACTCAGAGAAAACAGCGTCGGGATTTTCTGAGCGAGGCGAGCATC
 ATGGGCCAGTTTGACCATCCCAACATCATTGCGCTGGAGGGTGTGCTCACCAAGAGCCGGCTGTATGA
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 CAGGGACAGCTTCTCACCGCAGGCTTACCTCCCTTCACTGGTACCCAGATGACATCAGAAGACCTC
 CTGAGAATAGGGTAACCTTGGCAGGCCATCAGAAGAAGATTCTGAGTAGCATTCACTCAATGAGGGTCC
 AGATGAACCAAGTACCATCGGTAATGGCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG226017 representing NM_001168296
 Red=Cloning site Green=Tags(s)

MALDCLLLFLLASAVAAMEETLMDTRTATAELGWTANPASGWEEVSGYDENLNTIRTYQVCNVFEPNQNN
 WLLTTFINRRGAHRIYTEMRFVTRDCSSLPNVPGSCKETFNLYYYETDSVIATKKSAFWSEAPYLKVDTI
 AADESFSQVDFGGRLMKVNTEVRSFGPLTRNGFYLAFAQDYGACMSLLSVRVFFKKCPSIVQNFVAVFPETM
 TGAESTSLVIARGTCIPNAEEVDVPIKLYCNGDGEWMPVIGRCTCKPGYEPENSVACKACPAGTFKASQE
 AEGCSHCPSNSRSPSEASPICTCRTGYRADFDPPPEVACTSVPSGPRNVIIVNETSIIILEWHPPRETGG
 RDDVTYNIICKKCRADRRSCSRCDNVEFVPRQLGLTECRVSISSLWAHTPYTFDIQAINGVSSKSPFPF
 QHYSVNIITNQAAPSTVPIMHQVSATMRSITLSWPQPEQPNGIILDYEIRYYEKEHNEFNSSMARSQTNT
 ARIDGLRPGMVVYVQVRARTVAGYGKFSGKMCFTLDDDYKSELREQLPLIAGSAAAGVVFVSLVAIS
 IVCSRKRAYSKEAAYSCLKQHYSTGRGEFGEVYKGRLLKPGKREIYVAIKTLKAGYSEKQRDFLSEASI
 MGQFDHPNIIRLEGVVTKSRPVMIIITFMENGALDSFLRQNDGQFTVIQLVGMLRGIAGMKYLSMNYV
 HRDLAARNILVNSNLVCKVSDFGLSRYLQDDTSDPTYTSSLGGKIPVRWTAPEAIAYRKFTSASDVWSYG
 IVMWEVMSFGERPYWMSNQDVINAIEQDYRLPPMDCPALHQLMLDCWQKDRNSRPRFAEIVNTLDKM
 IRNPASLKTAVATITAVPSQPLLDRSIPDFTAFTTVDWLSAIKMWQYRDSFLTAGFTSLQLVTQMTSEDL
 LRIGVTLAGHQKILSSIHSRVMQMNQSPSVMA

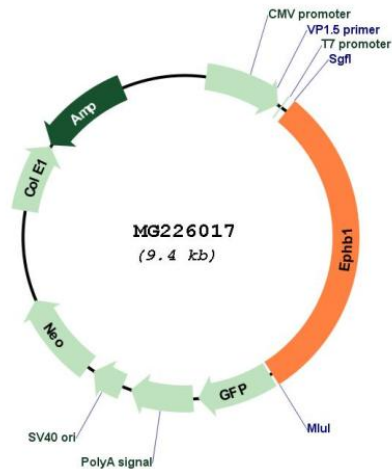
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_001168296

ORF Size: 2829 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_001168296.1](#), [NP_001161768.1](#)

RefSeq Size: 4563 bp

RefSeq ORF: 2832 bp

Locus ID: 270190

UniProt ID: [Q8CBF3](#)

Cytogenetics: 9 F1

Gene Summary:

Receptor tyrosine kinase which binds promiscuously transmembrane ephrin-B family ligands residing on adjacent cells, leading to contact-dependent bidirectional signaling into neighboring cells. The signaling pathway downstream of the receptor is referred to as forward signaling while the signaling pathway downstream of the ephrin ligand is referred to as reverse signaling. Cognate/functional ephrin ligands for this receptor include EFNB1, EFNB2 and EFNB3. During nervous system development, regulates retinal axon guidance redirecting ipsilaterally ventrotemporal retinal ganglion cells axons at the optic chiasm midline. This probably requires repulsive interaction with EFNB2. In the adult nervous system together with EFNB3, regulates chemotaxis, proliferation and polarity of the hippocampus neural progenitors. In addition to its role in axon guidance plays also an important redundant role with other ephrin-B receptors in development and maturation of dendritic spines and synapse formation. May also regulate angiogenesis. More generally, may play a role in targeted cell migration and adhesion. Upon activation by EFNB1 and probably other ephrin-B ligands activates the MAPK/ERK and the JNK signaling cascades to regulate cell migration and adhesion respectively. Involved in the maintenance of the pool of satellite cells (muscle stem cells) by promoting their self-renewal and reducing their activation and differentiation (PubMed:27446912).[UniProtKB/Swiss-Prot Function]