

## Product datasheet for MC222938

### Epha4 (NM\_007936) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Epha4 (NM_007936) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Epha4
Synonyms:	2900005C20Rik; AI385584; Cek8; Hek8; rb; Sek; Sek1; Tyro1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC222938 representing NM_007936 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCTGGGATTTTCTATTTTCATCTCTTTTCGTTTCTTTTGGAAATTTGCGACGCTGTACCCGGTTCTA  
GGGTATACCCCGGAATGAAGTTACTTTATTGGATTCCAGATCTGTTCCAGGAGAGCTTGGGTGGATAGC  
AAGCCCTCTGGAAGGAGGGTGGGAGGAAGTGAAGCATTATGGATGAGAAAAATACACCGATCCGAACCTAC  
CAGGTGTGCAACGTGATGGAAGCCAGCCAGAACAAGTGGCTGCGAACTGACTGGATCACCCGGAAGGGG  
CGCAGAGGGTGTACATTGAAATTAAGTTCACTCTAAGGGACTGCAACAGTCTTCCGGCGTCATGGGGAC  
TTGCAAGGAGACGTTAACCTCTACTACTATGAGTCGGACAACGACAAGGAGCGCTTCATCAGAGAGAGC  
CAGTTTGGCAAGATCGACACCATCGCAGCTGATGAGAGCTTACCGAGGTGGACATTGGTGACCGAATCA  
TGAAACTCAACACTGAGATCCGGGATGTAGGGCCACTGAGCAAGAAAGGGTTTTACCTGGCTTTTCAGGA  
TGTGGGTGCTTGCATCGCCCTGGTGTCTGTCCGTGTGTTCTACAAGAAGTGTCCACTCACCGTTCGAAAT  
CTAGCCCAGTTTCTGATACCATTACTGGGGCTGATACCTCTTCCCTGGTGAAGTTCGAGGCTCCTGTG  
TCAACAACCTCAGAAGAGAAGGATGTGCCAAAAATGTACTGTGGGGCAGATGGTGAATGGCTGGTACCCAT  
TGGCAACTGCCTATGCAACGCTGGGCACGAGGAGCAGAATGGTGAATGCCAAGCTTGCAAAATGGATAT  
TACAAAGCTCTTCCACGGACGCTCCTGTGCCAAGTGTCCACCGCAGCTACTCTGTGGGAAGGAG  
CCACGTCCTGCACCTGTGACCGAGGCTTTTTCAGAGCTGACAACGATGCAGCCTCCATGCCCTGCACCCG  
CCCACCATCTGCTCCCCTCAACTTGATTCTAATGTCAACGAGACATCGGTGAACCTGGAATGGAGCAGC  
CCTCAGAACACAGGTGGCCGTGAGGACATTTCTTACAACGTGGTCTGCAAGAAATGTGGAGCTGGTGATC  
CCAGCAAGTGCCGCCCTGTGGAAGTGGAGTCCACTACACACCACAGCAGAACGGACTCAAGACGACCAG  
AGTCTCCATCACTGACCTCCTAGCACACACCAATTACACGTTTGAGATCTGGGCAGTGAATGGAGTGTCT  
AAGTATAACCCTAGCCCGGACCAGTCCGTGTCTGTACAGTGACAACCAACCAAGCAGCACCATCATCCA  
TTGCTTTGGTCCAGGCTAAAGAAGTTACAAGATATAGCGTAGCTCTGGCTTGGCTGGAACAGATCGACC  
AAATGGAGTCATCTTAGAATATGAAGTCAAATATTATGAAAAGGATCAGAATGAACGCAGCTATCGCATA



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GTCCGGACAGCTGCCAGGAACACAGATATCAAAGGCTGAACCCTCTGACTTCCTATGTTTTTCACGTGC  
 GAGCCAGGACCGCTGCTGGCTACGGAGACTTCAGCGAGCCCTGGAAGTCACTACTAATACAGTGCCTTC  
 CCGCATCATTGGCGATGGAGCCAACTCCACTGTCTGCTGGTCTCCGTCTCTGGCAGTGTGGTCTCGTG  
 GTCATTCTCATTGCAGCTTTTGTGATCAGCCGAAGACGGAGTAAGTACAGCAAAGCGAAACAAGAAGCAG  
 ATGAAGAGAAACATTTGAATCAAGGTGTTAGAACTTATGTGGATCCCTTTACATACGAAGACCCCAACCA  
 GGCAGTTCGAGAAATTTGCCAAAGAAATCGATGCATCCTGCATTAATAATGAAAAGGTATAGGAGTTGGT  
 GAATTTGGAGAGGTCTGCAGTGGGCGTCTCAAAGTGCCCGCAAGAGAGAGATCTGTGTGGCCATCAAGA  
 CTCTGAAAGCTGGCTATACTGACAAGCAGAGGAGAGACTTCTGAGTGAGGCCAGCATCATGGGACAGTT  
 TGACCACCCAAACATAATCCACCTGGAAGGCGTTGTACCAAATGTAAACCGGTAATGATCATAACGGAG  
 TACATGGAGAACGGCTCCTTGGATGCTTTCCTCAGGAAGAATGATGGCCGCTTTACAGTCATTACAGTGG  
 TGGGCATGCTCCGGGCAATTGGCTCGGGGATGAAGTACTTATCTGATATGAGCTATGTGCATCGAGACCT  
 GGCTGCCAGGAACATCCTGGTAAACAGCAACTTGGTCTGCAAGGTGTCTGACTTTGGCATGTCCAGGGTG  
 CTGGAGGATGACCCGAAGCAGCCTACACTACCAGGGTGGCAAGATTCTATCCGGTGGACTGCGCCAG  
 AAGCAATTGCGTATCGTAAATTTACCTCAGCCAGTGATGTCTGGAGCTACGGAATCGTTATGTGGGAAGT  
 GATGTCATATGGAGAGAGACCGTACTGGGATATGTCCAATCAAGATGTGATCAAAGCCATCGAGGAAGGG  
 TACCGGCTACCCCTCCAATGGACTGCCCATTTGCCCTCCATCAGTTAATGCTGGACTGTGGCAGAAAG  
 AGAGAAGTGACAGGCCTAAATTTGGGCAGATCGTCAACATGCTGGACAAACTCATCCGCAATCCCAACAG  
 CCTGAAGAGGACAGGGTCGGAGAGTTCCAGACCAACACAGCCTTGTAGATCCCAGCTCCCTGAATTC  
 TCTGCTGTAGTATCAGTGGGCGACTGGCTGCAGGCCATCAAAAATGGACCGGTATAAGGACAACTTCCAGG  
 CCGCCGGGTACACGACACTAGAAGCCGTGGTTCACATGAGCCAGGACGACCTGGCGAGAATTGGCATCAC  
 CGCCATCACGCACCAGAATAAGATTTTGAGCAGCGTCCAGGCGATGCGAACCAGATGCAGCAGATGCAT  
 GGCAGGATGGTTCCTGTCTGA

ACGCGTACGCGCGGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM\_007936
- Insert Size:** 2961 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- 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\\_007936.3](#), [NP\\_031962.2](#)
- RefSeq Size:** 6328 bp
- RefSeq ORF:** 2961 bp

Locus ID: 13838

UniProt ID: [Q03137](#)

Cytogenetics: 1 39.55 cM

**Gene Summary:** Receptor tyrosine kinase which binds membrane-bound ephrin 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. Highly promiscuous, it has the unique property among Eph receptors to bind and to be physiologically activated by both GPI-anchored ephrin-A and transmembrane ephrin-B ligands including EFNA1 and EFNB3. Upon activation by ephrin ligands, modulates cell morphology and integrin-dependent cell adhesion through regulation of the Rac, Rap and Rho GTPases activity. Plays an important role in the development of the nervous system controlling different steps of axonal guidance including the establishment of the corticospinal projections. May also control the segregation of motor and sensory axons during neuromuscular circuit development. In addition to its role in axonal guidance plays a role in synaptic plasticity. Activated by EFNA1 phosphorylates CDK5 at 'Tyr-15' which in turn phosphorylates NGEF regulating RHOA and dendritic spine morphogenesis. In the nervous system, plays also a role in repair after injury preventing axonal regeneration and in angiogenesis playing a role in central nervous system vascular formation. Additionally, its promiscuity makes it available to participate in a variety of cell-cell signaling regulating for instance the development of the thymic epithelium.[UniProtKB/Swiss-Prot Function]