

Product datasheet for **MR211210**

Epha4 (BC004782) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Epha4 (BC004782) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Epha4
Synonyms:	Sek1, Cek8, Hek8, Tyro1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>MR211210 representing BC004782
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGATGAGAAAAATACACCGATCCGAACCTACCAGGTGTGCAACGTGATGGAAGCCAGCCAGAACAAC
 GGCTGCGAACTGACTGGATCACCCGCGAAGGGCGCAGAGGGTGTACATTGAAATTAAGTCACTCTAAG
 GGACTGCAACAGTCTTCCGGGCGTCATGGGACTTGCAAGGAGACGTTTAACTCTACTATTATGAGTCG
 GACAACGACAAGGAGCGCTTCATCAGAGAGAGCCAGTTTGGCAAGATCGACACCATCGCAGCTGATGAGA
 GCTTCACGCAGGTGGACATTGGTGACCGAATCATGAACTCAACACTGAGATCCGGGATGTAGGGCCACT
 GAGCAAGAAAGGGTTTTACCTGGCTTTTCAGGATGTGGTGCTTGCATCGCCCTGGTGTCTGTCCGTGTG
 TTCTACAAGAAGTGTCCACTCACCGTTCGAAATCTAGCCAGTTTCTGATACCATTACTGGGGCTGATA
 CCTCTTCCCTGGTGAAGTTCGAGGCTCCTGTGTCAACAACCTCAGAAGAGAAGGATGTGCCAAAAATGTA
 CTGTGGGGCAGATGGTGAATGGCTGGTACCCATTGGCAACTGCCTATGCAACGCTGGGCACGAGGAGCAG
 AATGGTGAATGCCAAGCTTGCAAAATGGATATTACAAAGCTCTTCCACGGATGCCTCCTGTGCCAAGT
 GTCCACCGCACAGCTACTCTGTCTGGGAAGGAGCCACGTCTGCACCTGTGACCGAGGCTTTTTTCAGAGC
 TGACAACGATGCAGCCTCCATGCCTGCACCCGCCACCATCTGCTCCCTCAACTTGATTTCTAATGTC
 AACGAGACATCGGTGAATTGGAATGGAGCAGTCTCAGAACACAGGTGGCCGTGAGGACATTTCTTACA
 ACGTGGTCTGCAAGAAATGTGGAGCTGGTGATCCCAGCAAATGCCGGCCCTGTGGAAGTGGAGTCCACTA
 CACACCACAGCAGAACGGACTCAAGACGACCAGAGTCTCCATCACTGACCTCCTAGCACACCAATTAC
 ACGTTTGAGATCTGGGCAGTGAATGAAGTGTCTAAGTATAACCTAGCCCGGACCAGTCCGTGTCTGTCA
 CAGTGACAACCAACCAAGCAGCACCATCCATTGCTTTGGTCCAGGCTAAAGAAGTTACAAGATATAG
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 GAAAAGGATCAGAATGAACGCAGCTATCGCATAGTCCGGACAGCTGCCAGGAACACAGATATCAAAGGCC
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 GCCCTGGAAGTCACTACTAATACAGTGCCTTCCCGCATCATTGGCGATGGAGCCAACTCCACTGTCCTG
 CTGGTCTCTGTCTCTGGCAGTGTGGTCTCGTGGTCATTCTCATTGCAGCTTTTGTGATCAGCCGAAGAC
 GGAGTAAGTACAGCAAAGCGAAACAAGAAGCAGATGAAGAGAAACATTTGAATCAAGGTGTTAGAATTA
 TGTGGATCCCTTTACATACGAAGACCCCAACCAGGCAGTTCGAGAATTTGCCAAAGAAATCGATGCATCC
 TGCATTAATGAAAAGGTCATAGGAGTTGGTGAATTTGGAGAGGTCTGCAGTGGGCGTCTCAAAGTGC
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 CTTCTGAGTGAAGCCAGCATCATGGGACAGTTTGACCACCCAAACATAATCCACCTGGAAGGCGTTGTC
 ACCAAATGTAACCGGTAATGATCATAACGGAGTACATGGAGAACGGCTCCTTGGATGCTTTCCTCAGGA
 AGAATGATGGCCGCTTACAGTCATTCACTGGTGGGCATGCTCCGGGCGATTGGCTCGGGGATGAAGTA
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 TGCAAGGTGTCTGACTTTGGCATGTCCAGGGTCTGGAGGATGACCCCGAAGCAGCCTACACTACCAGGG
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 TGCTGGAGCTACGGAATCGTTATGTGGGAAGTGTATGCATATGGAGAGAGACCGTACTGGGATATGTCC
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 TCCATCAGTTAATGCTGGACTGCTGGCAGAAAGAGAGAAGCGACAGGCCTAAATTTGGGCAGATCGTTAA
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 ACAGCCTTGTAGATCCCAGCTCCCTGAATTTCTGCTGTAGTATCAGTGGGCGACTGGCTGCAGGCCA
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 GAGCCAGGACGACCTGGCGAGAATTGGCATCACCGCCATCACGCACCAGAATAAGATTTGAGCAGCGTC
 CAGGCGATGCCAACCCAGATGCAGCAGATGCATGGCAGGATGGTTCCTGTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR211210 representing BC004782
 Red=Cloning site Green=Tags(s)

MDEKNTPIRTYQVCNMEASQNNWLRTDWITREGAQRVYIEIKFTLRDCNSLPGVMGTCKETFNLYYYYE
 DNDKERFIRESQFGKIDTIAADESFTQVDIGDRIMKLNTEIRDVGPLSKKGFYLAQFDVGACIALVSVRV
 FYKKCLPTVRNLAQFPDITGADTSSLVEVRGSCVNNSEEKDVPKMYCGADGEWLVPIGNCLCNAGHEEQ
 NGECQACKIGYKALSTDASCAKCPHSHYSVWEGATSCDRGFFRADNDAASMPCTRPPSAPLNLSNV
 NETSVNLEWSSPQNTGGRQDISYNNVCKKCGAGDPSKCRPCGSGVHYTPQQNGLKTRVSIIDLLAHTNY
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 EKDQNERSYRIVRTAARNTDIKGLNPLTSYVFHVRARTAAGYGDFSEPLEVTTNTVPSRIIGDGANSTVL
 LVSVSGSVVLLVILIAAFVISRRRSKYSKAKQEADDEKHLNQGVRTYVDPFTYEDPNQAVREFAKEIDAS
 CIKIEKIVIGVGEFGEVCSGRLKVPKREICVAIKTLKAGYTDKQRRDFLSEASIMQFDHPNIIHLEGVV
 TKCKPVMIIITEYMENGLDAFLRKNDRFTVIQLVGMRLGIGSGMKYLSMSYVHRDLAARNILVNSNLV
 CKVSDFGMSRVLEDDPEAAAYTRGGKIPIRWTAPEAIAYRKFTSASDVWSYGIWMWEVMSYGERPYWMS
 NQDVIKAIIEEGYRLPPPMDCPIALHQLMLDCWQKERSDRPKFGQIVNMLDKLIRNPNSLKRTGSESSRPN
 TALLDPSSPEFSAVVSVGDWLQAIKMDRYKDNFTAAGYTTLEAVVHMSQDDLARIGITAIHQNKILSSV
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

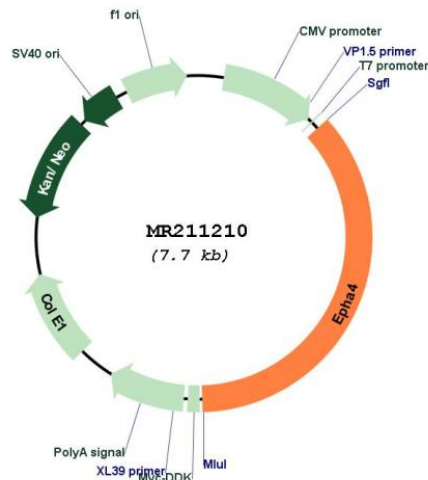
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: BC004782

ORF Size: 2781 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in *E. coli* are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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: [BC004782.1](#)
RefSeq Size: 3544 bp
RefSeq ORF: 2783 bp
Locus ID: 13838
Cytogenetics: 1 39.55 cM
MW: 129.9 kDa

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]