

Product datasheet for **MR209161**

Eya1 (NM_010164) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Eya1 (NM_010164) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Eya1
Synonyms:	bor
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR209161 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGCAGGATCTAACCAGCCCGCATAGCCGACTGAGTGGTAGTAGCGAATCCCCAGTGGTCCCAAACCTCG
 ATAGCTCTCATATAAATAGTACTTCCATGACTCCCAATGGCACCAGGAAATAAAACAGAGCCAATGAGCAG
 CAGTGAATAGCTTCAACAGCAGCAGACGGGTCTTTAGACAGTTTCTCAGGTTACGCTCTCGGAAGCAGC
 AGCTTTAGTCCAAGACCAGCTCACCCGTTCTCTCCACCACAGATTTATCCTTCCAACAGATCATACCCAC
 ATATTCTCCCTACCCCTTCTCACAAAATATGGCTGCATATGGGCAAACACAGTTTACCACAGGAATGCA
 ACAAGCCACAGCCTACGCCACGTACCCACAGCCTGGACAGCCCTATGGAATTTCTCCTATGGCATCAAG
 ACGGAAAGTGGATTGTCACAGTCTCAGTCACTGGACAGACGGGATTTCTTAGCTATGGCACAAGCTTTG
 GTACCCCTCAACCTGGACAGGCACCGTACAGTACCAGATGCAAGGTAGCAGCTTTACCACGTATCAGG
 ATTATATTCAGGAAATAATTCACCTACCAACTCCTCCGGATTCAACAGTTCACAGCAGGACTATCCGTCT
 TATCCCGGCTTTGGCCAGGGTCAGTACGCACAGTATTATAACAGCTCGCCGATCCAGCACACTACATGA
 CGAGCAGTAACACCAGCCGACCACACCGTCCACCAATGCCACTTACCAACTCCAGGAACCACCTTCTGG
 CGTCACAAGTCAAGCGGTACAGACCCACAGCAGAGTACAGTACAATCCACAGTCTTCCACACCCATT
 AAAGAGACTGACTCCGAGCGGCTGCGTCGAGGTTAGATGGGAAGTACGTTGGCCGAGGCAGAGAAGAAACA
 ATAATCCCTCCCTCCCGGATTTGACCTTGAGAGAGTGTTCATCTGGGACCTGGACGAGACCATCAT
 TGTTCCTCACTCCTTGTACGGGGTCTACGCCAACAGATACGGGAGGGATCCACCTACTTCTGTTTCC
 CTGGGACTACGAATGGAAGAGATGATTTTCAACTTGGCAGACACACATCTATTTTCAATGACACTAGAAG
 AGTGTGACCAAGTCCATATAGATGATGTTTCACTCAGACGACAACGGCCAGGACCTGAGCACAACAATT
 TGGAACAGATGGCTTTCCTGCTGCAGCCACAGTGTCTAATTTATGCCTGGCAACTGGTGTCCGAGGTGGT
 GTGGACTGGATGCGGAAACTGGCCTTCCGCTACAGACGAGTAAAAGAGATCTACAACACCTACAAAAACA
 ACGTGGGAGGTCTGCTTGGCCAGCTAAGAGGGAAGCCTGGCTCCAGCTGAGGGCTGAGATTGAGGCACT
 CACAGACTCCTGGCTGACCCTGGCCCTGAAGGCCCTCTCCCTCATCCACTCCCGGACGAAGTGTGTGAAT
 ATTTTAGTAACAACACTACGAGCTCATCCAGCATTGGCAAAGTCTGCTATATGGATTAGGAATTGTGT
 TTCCAATAGAAAAATTTACAGTCAACTAAAATAGGAAAGGAAAGCTGTTTTGAGAGGATAATCCAAAG
 GTTTGGAAGGAAAGTGGTATACGTTGTCATAGGAGATGGTGTGGAAGAAGAGCAAGGGGCAAAAAGCAT
 GCTATGCCCTTCTGGAGGTCTCCAGTCACTCGGACCTCATGGCACTGCATCATGCCTTGAATTAGAGT
 ACCTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR209161 protein sequence
 Red=Cloning site Green=Tags(s)

MQDLTSPHSRLSGSSESPSPKLDSSHINSTSMTPNGTEVKTEPMSSEIASTAADGSLDSFSGSALGSS
 SFSRPAHPFSPQIYPSNRSYPHILPTPSSQTMAAYGQTQFTTGMQQATAYATYPQPGQPYGISSYGIK
 TESGLSQSQSPGQTGFLSYGTSFGTPQPGQAPYSYQMGGSSFTTSSGLYSGNNSLTNSSGFNSSQDYP
 YPGFGGQYAQYINSSYPAHYMTSSNTSPTTSTNATYQLQEPSPSVTSQAVTDPTAEYSTIHSPTPI
 KETDSERLRGSDGKSRGRGRRNNPSPPPDSLDERVF IWDLDETIIVFHSLLTGSYANRYGRDPPTSVS
 LGLRMEEMIFNLADTHLFFNDLEECDQVHIDDVSSDDNGQDLSTYNFGTDGFPAAATSANLCLATGVRGG
 VDWMRKLAFRYRRVKEIYNTYKNNVGGLLGPAKREAWLQLRAEIEALTDSWLTALALKALSLIHSRTNCVN
 ILVTTTQLIPALAKVLLYGLGIVFPIENIYSATKIGKESCFERIIQRFRKRVVYVIGDGVVEEQGAKKH
 AMPFWRVSSSHDLMALHHALELEYL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_010164

ORF Size: 1758 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_010164.2](#), [NP_034294.2](#)

RefSeq Size: 4354 bp

RefSeq ORF: 1764 bp

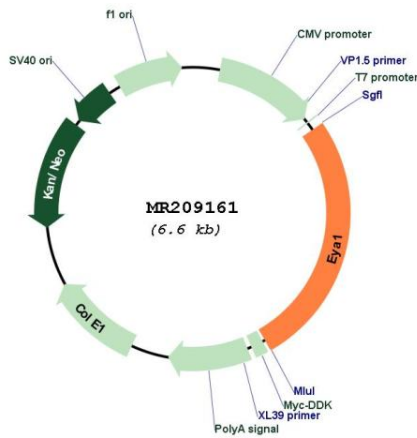
Locus ID: 14048

Cytogenetics: 1 4.31 cM

MW: 63.7 kDa

Gene Summary: Functions both as protein phosphatase and as transcriptional coactivator for SIX1, and probably also for SIX2, SIX4 and SIX5 (PubMed:10490620). Tyrosine phosphatase that dephosphorylates 'Tyr-142' of histone H2AX (H2AXY142ph) and promotes efficient DNA repair via the recruitment of DNA repair complexes containing MDC1. 'Tyr-142' phosphorylation of histone H2AX plays a central role in DNA repair and acts as a mark that distinguishes between apoptotic and repair responses to genotoxic stress (PubMed:19234442). Its function as histone phosphatase may contribute to its function in transcription regulation during organogenesis (PubMed:14628042). Has also phosphatase activity with proteins phosphorylated on Ser and Thr residues (in vitro). Required for normal embryonic development of the craniofacial and trunk skeleton, kidneys and ears (PubMed:10471511). Together with SIX1, it plays an important role in hypaxial muscle development; in this it is functionally redundant with EYA2 (PubMed:17098221).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR209161