

Product datasheet for MC209407

Six3 (NM_011381) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Six3 (NM_011381) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Six3
Synonyms:	E130112M24Rik; Six3a; Six3alpha; Six3b; Six3beta
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC209407 representing NM_011381 Red=Cloning site Blue=ORF Orange=Stop codon

TTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGC**

ATGGTATTCGGCTCCCCCTAGATCTCTATTCTCCCACTTCTTGTGCCAACTTCGCCGATTCTCACC
ACTGCTCCCTACTTCTGGCGAGTAGCGGCGGGAGCGGTGCGAGCGGCGGGCGGGCGGGGAGG
AGGCGGCGGGGAACCGTGGGGAGGCGGGTCTGGCGGAGCAGGCGGCGGAGCGGCGGGCGGG
TCCAGGGCCCCCGGAAGAGTTGTCCATGTTCCAGTTGCCACCCTCACTTCTCGCCGAGCAGGTGG
CCAGCGTCTGCGAGACGCTGGAGGAGACGGGCGACATCGAGCGGCTGGGCGCTTCTCTGGTCGCTGCC
CGTGGCCCCCGGGCGTGGCAGGCCATCAACAAACACGAGTCGATCCTGCGCGCGCGCTGTCTGCGCC
TTCCACACCGGCAACTTCCGCGACCTGTACCACATCCTGGAGAACCACAAGTTCACTAAGGAGTCTCAG
GCAAGCTGCAAGCCATGTGGCTCGAGGCGCACTACCAGGAGGCCGAGAAGCTGCGCGGCCCGCGCTCGG
CCCGGTGGACAAGTACCGCTGCGCAAGAAGTTCCTCTGCCGCGCACCATCTGGGATGGCGAGCAGAAG
ACCCATTGCTTCAAGGAGCGGACTCGGAGCCTGCTGCGGAGTGGTACCTGCAGGATCCCTACCCCAACC
CCAGCAAGAAACGGAAGTGGCGCAGGCCACCGGCCTACCCCAACACAAGTAGGCAACTGGTTTAAAGAA
CCGGCGACAGCGCAGCGCGCAGCGGCGGCAAGAAGAGGCTCCAGCATCAGGCCATCGGGCCGAGCGGG
ATGCGCTCGCTGGCCGAGCCCGCTGCCACGCACGGCTCAGCAGAGTACCGTCCACGGCGGCCAGCC
CGACCACAGTGTGTCCAGCCTGACGGAGCGCGGACACCGGCACTTCGATCCTCTCGGTAACCTCCAG
CGACTCGGAATGTGATGT**ATGA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI



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ACCN:	NM_011381
Insert Size:	1002 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:	<ol style="list-style-type: none"> 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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	<u>NM_011381.4, NP_035511.2</u>
RefSeq Size:	3680 bp
RefSeq ORF:	1002 bp
Locus ID:	20473
UniProt ID:	<u>Q62233</u>
Cytogenetics:	17 55.42 cM

Gene Summary:

Transcriptional regulator which can act as both a transcriptional repressor and activator by binding a ATTA homeodomain core recognition sequence on these target genes. During forebrain development represses WNT1 expression allowing zona limitans intrathalamica formation and thereby ensuring proper antero-posterior patterning of the diencephalon and formation of the rostral diencephalon (PubMed:18094027). Acts as a direct upstream activator of SHH expression in the rostral diencephalon ventral midline and that in turn SHH maintains its expression (PubMed:18775421). In addition, Six3 activity is required for the formation of the telencephalon. During postnatal stages of brain development is necessary for ependymal cell maturation by promoting the maturation of radial glia into ependymal cells through regulation of neuroblast proliferation and migration (PubMed:22071110). Acts on the proliferation and differentiation of neural progenitor cells through activating transcription of CCND1 AND CCND2 (PubMed:17576749). During early lens formation plays a role in lens induction and specification by activating directly PAX6 in the presumptive lens ectoderm (PubMed:17066077). In turn PAX6 activates SIX3 resulting in activation of PDGFRA and CCND1 promoting cell proliferation (PubMed:12072567). Also is required for the neuroretina development by directly suppressing WNT8B expression in the anterior neural plate territory (PubMed:20890044). Its action during retina development and lens morphogenesis is TLE5 and TLE4-dependent manner. Furthermore, during eye development regulates several genes expression. Before and during early lens development represses the CRYGF promoter by binding a SIX repressor element (PubMed:11139622). Directly activates RHO transcription, or cooperates with CRX or NRL (PubMed:17666527). Six3 functions also in the formation of the proximodistal axis of the optic cup (PubMed:12163408), and promotes the formation of optic vesicles-like structures (PubMed:11458394). During pituitary development, acts in parallel or alternatively with HESX1 to control cell proliferation through Wnt/beta-catenin pathway (PubMed:18694563). Plays a role in eye development by suppressing WNT1 expression and in dorsal-ventral patterning by repressing BMP signaling pathway (By similarity).[UniProtKB/Swiss-Prot Function]