

Product datasheet for **RC205682**

MSX1 (NM_002448) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	Myc-DDK
Symbol:	MSX1
Synonyms:	ECTD3; HOX7; HYD1; STHAG1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC205682 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCCCCGGCTGCTGACATGACTTCTTTGCCACTCGGTGTCAAAGTGGAGGACTCCGCCTTCGGCAAGC
 CGGCGGGGGAGGCGCGGGCCAGGCCCCAGCGCCGCGCGGCCACGGCAGCCGCCATGGGCGGGACGA
 GGAGGGGGCCAAAGCCAAAGTGTCCCTTCGCTCCTGCCCTTCAGCGTGGAGGCGCTCATGGCCGACCAC
 AGGAAGCCGGGGCCAAAGGAGAGCGCCCTGGCGCCCTCCGAGGGCGTGCAGGCGGGGGTGGCTCGGCGC
 AGCCACTGGGCGTCCCGCGGGGTGCTGGGAGCCCCGACGCGCCCTCTTCGCCGCGGCCGCTCGGCCA
 TTTCTCGGTGGGGGACTCCTCAAGCTGCCAGAAGATGCGCTCGTCAAAGCCGAGAGCCCCGAGAAGCCC
 GAGAGGACCCCGTGGATGCAGAGCCCCGCTTCTCCCGCGCGCGGCCAGGCGGCTGAGCCCCCAGCCT
 GCACCCTCCGCAACACAAGACGAACCGTAAGCCGCGGACGCCCTTCACCACCGCGCAGCTGCTGGCGCT
 GGAGCGCAAGTTCGCCAGAAGCAGTACCTGTCCATCGCCGAGCGCGGAGTTCTCCAGCTCGCTCAGC
 CTCACTGAGACGAGGTGAAGATATGGTTCCAGAACC GCCGCCAAGGCAAAGAGACTACAAGAGGCAG
 AGCTGGAGAAGCTGAAGATGGCCGCCAAGCCCATGCTGCCACCGGCTGCCTTCGGCCTCTCCTTCCTCT
 CGGCGGCCCCGAGCTGTAGCGGCCGCGGGGTGCTCGCTCTACGGTGCCTCTGGCCCCCTCCAGCGC
 GCCGCGCTGCCTGTGGCGCCGTGGGACTCTACACGGCCCATGTGGGCTACAGCATGTACCACCTGACA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA


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Protein Sequence: >RC205682 protein sequence
 Red=Cloning site Green=Tags(s)

MAPAADMTSLPLGVKVEDSAFGKPAGGGAGQAPSAAAATAAMGADEEGAKPKVSPSLLPFSVEALMADH
 RKP GAKESALAPSEGVQAAGGSAQPLGVPPGSLGAPDAPSSPRPLGHF SVGGLLKL PEDALVKAESPEKP
 ERTPWMQSPRFSPPPARRLSPPACTLRKHKTNRKPRTPTTTAQLLALERKFRQKQYLSIAERAEFSSSL
 LTETQVKIWFQNRRAKAKRLQEAELEKLMAAKPMLPPAAFGLSFPLGGPAAVAAAAGASLYGASGPFQR
 AALPVAPVGLYTAHVGYSMYHLT

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6171_g04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002448

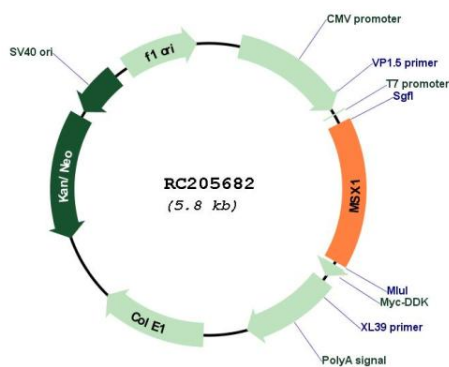
ORF Size: 909 bp

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.

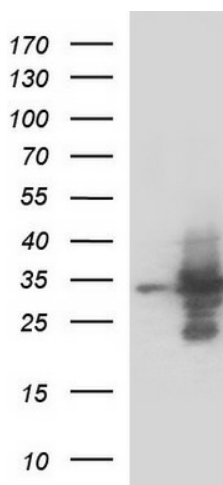
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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:	<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_002448.3, NP_002439.2</u>
RefSeq Size:	1940 bp
RefSeq ORF:	912 bp
Locus ID:	4487
UniProt ID:	<u>P28360</u>
Cytogenetics:	4p16.2
Domains:	homeobox
Protein Families:	Druggable Genome, Transcription Factors
MW:	31.5 kDa
Gene Summary:	This gene encodes a member of the muscle segment homeobox gene family. The encoded protein functions as a transcriptional repressor during embryogenesis through interactions with components of the core transcription complex and other homeoproteins. It may also have roles in limb-pattern formation, craniofacial development, particularly odontogenesis, and tumor growth inhibition. Mutations in this gene, which was once known as homeobox 7, have been associated with nonsyndromic cleft lip with or without cleft palate 5, Witkop syndrome, Wolf-Hirschorn syndrome, and autosomal dominant hypodontia. [provided by RefSeq, Jul 2008]

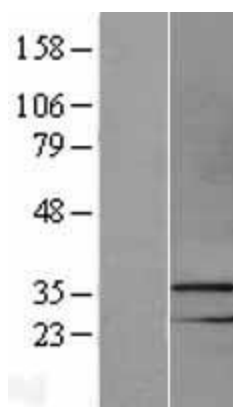
Product images:



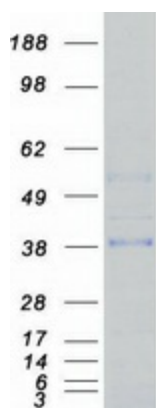
Circular map for RC205682



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MSX1 (Cat# RC205682, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MSX1 (Cat# [TA590129]). Positive lysates [LY400873] (100ug) and [LC400873] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400873]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205682 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MSX1 protein (Cat# [TP305682]). The protein was produced from HEK293T cells transfected with MSX1 cDNA clone (Cat# RC205682) using MegaTran 2.0 (Cat# [TT210002]).