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Product datasheet for RR206110

Mical1 (NM_001106397) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mical1 (NM_001106397) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mical1
Synonyms:	MICAL-1; Nical
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RR206110 representing NM_001106397 Red=Cloning site Blue=ORF Green=Tags(s) TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCCGCGATCGCC ATGGCTTCACCAACCTCCACCAACCCAGCACATGACCACTTTGAGACCTTTGTGCAGGCACAGCTGTGCC AAGATGTACTGAGCAGTTTTCAGGGGCTCTGTAGAGCCCTGGGAGTGGAGTCTGGTGGGGGATTACCCCA GTACCACAAGATCAAGGCCCAGCTCAACTACTGGAGTGCCAAGTCACTGTGGGCCAAGTTGGACAAGAGA GCAAGCCAGCCTGCGTACCAGCAAGGCCAGGCCTGTACCAACACCAAGTGTCTCGTGGTAGGTGCTGGGC CTTGTGGACTTCGGGCTGCAGTGGAGCTTGCACTGTTAGGTGCCCGAGTGGTGCTTGTGGAAAAGCGTAC CAAGTTCTCTAGGCACAATGTACTCCATCTCTGGCCCTTCACCATCCATGATCTCCGGGCACTTGGGGCC AAGAAGTTCTACGGGCGTTTCTGTACTGGGACCCTGGACCATATCAGCATCCGACAGCTCCAGCTGCTTC TGCTGAAGGTGGCGTTACTGTTGGGGGTGGAGATTCACTGGGGCTTCACTTTCACTGGCCTGCAGCCCCC TCCCAAAAAAGGGAGTGGCTGGCGTGCCCGGATCCAGCCCAGTCCCCCAGCCCAACTGGCCAGCTACGAA TTTGATGTCCTCATCTCAGCTGGAGGAGGCAAATTTGTCCCTGAAGGCTTCACCATCAGAGAGATGCGCG GCAAACTGGCCATCGGCATCACAGCCAACTTTGTGAATGGGCGCACGGTGGAGGAGACACAGGTGCCAGA AATCAGTGGCGTAGCTCGGATCTACAACCAAAAATTCTTCCAGAGCCTGCTCAAAGCCACAGGTATTGAT CTGGAGAACATTGTGTACTACAAGGACGACACCCACTACTTTGTCATGACAGCCAAGAAGCAGTGTCTGC TGAGGCTGGGGGTATTGCGCCAGGACTTGCCAGAGACTGATCAGCTGCTGGGCAAAGCTAATGTGGTGCC TGAGGCTCTGCAGCAGTTTGCCAGAGCAGCGGCCGACTTCGCCACCCAAGGCAAGCTTGGGAAACTGGAG TTCGCTCAGGATGCACGTGGGCGGCCCGATGTGGCAGCCTTCGACTTCACAAGCATGATGCGGTCAGAGA GTTCTGCTCGTATCCAAGAAAAGCATGGTGCCCGCCTACTGCTGGGGCTGGTGGGGGACTGCCTTGTGGA GCCCTTCTGGCCTTTGGGCACTGGAGTGGCCCGAGGCTTCTTGGCAGCCTTCGATGCAGCCTGGATGGTG AAGCGGTGGGCGGAGGGTACTGGGCCTCTAGAGCTGTTGGCTGAACGTGAGAGCTTGTACCAGCTTCTGT CACAAACATCCCCAGAGAATATGCATCGAAATGTAGCCCAGTATGGGTTGGACCCTGCCACCCGATACCC CAACCTGAACCTCCGGGCTGTAACGCCCAACCAGGTACAAGACCTCTATGACATAATGGACAAGGAGCAT GCTCGGAAGAAGAGTGACGAGACGGATGCCCGGAAGACAACCACAGGGTCTGCAGGCACTGAGGAGCTTC

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Protein Sequence:

>RR206110 representing NM_001106397
Red=Cloning site Green=Tags(s)

MASPTSTNPAHDHFETFVQAQLCQDVLSSFQGLCRALGVESGGGLPQYHKIKAQLNYWSAKSLWAKLDKR
ASQPAYQQGQACTNTKCLVVGAGPCGLRAAVELALLGARVVLVEKRTKFSRHNVLHLWPFTIHDLRALGA
KKFYGRFCTGTLDHISIRQLQLLLLKVALLLGVEIHWGFTFTGLQPPPKKGSGWRARIQPSPPAQLASYE
FDVLISAGGGKFVPEGFTIREMRGKLAIGITANFVNGRTVEETQVPEISGVARIYNQKFFQSLLKATGID
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ARKKSDETDARKTTTGSAGTEELLHWCQEQTAGFPGVSVTDFSSSWADGRALCALVHRLQPGLLEPSELQ
GMSALEATAWALRVAEYELGIIPVLSAQAVVAGSDPLGLIAYLSHFHSAFKNTPHSSGLVSQPHGTPSAI
LFLGKLQRSLQRTRTKVEEETPCTEEPPVSEPSVPPALPSEHEEAGAEDVCELCGKRLYILERFCVDGHF
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APQVPEAIEKGEEEEEEEEEEEEEEELPPPLALEVEQSLLTLAKNSGDMTKYPTWRRTLMRRAKEEEMK
RFCKAQAIQRRLNEIEAAMRELETEGMKLEVALRKESSSPEKQKKLWLEQLLQLIQKKNSLVTEEAELMI
TVQELDLEEKQRQLDHEFRGINREETLKTQADRLSEDRVLRKLLDVVNQRDALIQFQEERRLREMPV

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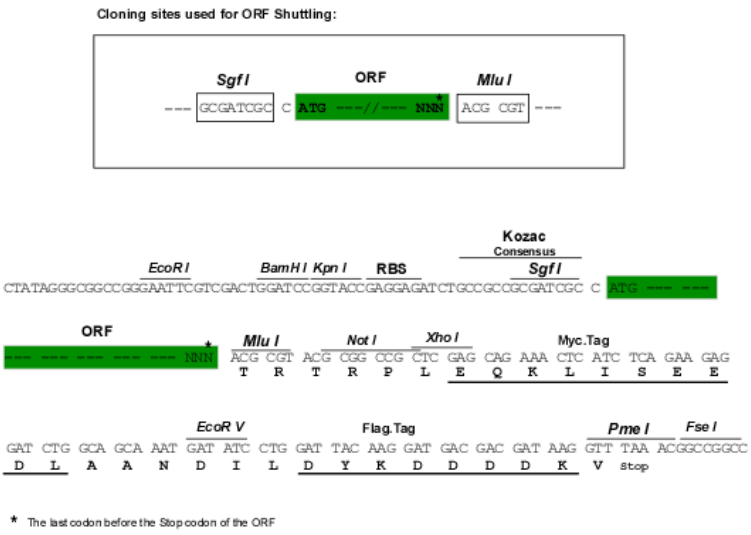
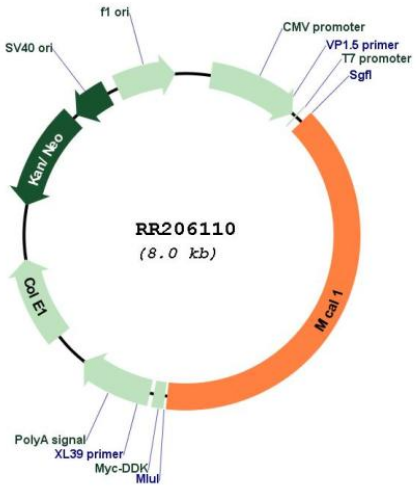
Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001106397

ORF Size: 3141 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_001106397.1, NP_001099867.1
RefSeq Size:	3536 bp
RefSeq ORF:	3144 bp
Locus ID:	294520
UniProt ID:	D3ZBP4
Cytogenetics:	20q12
MW:	116.7 kDa
Gene Summary:	Monooxygenase that promotes depolymerization of F-actin by mediating oxidation of specific methionine residues on actin to form methionine-sulfoxide, resulting in actin filament disassembly and preventing repolymerization. In the absence of actin, it also functions as a NADPH oxidase producing H(2)O(2). Acts as a cytoskeletal regulator that connects NEDD9 to intermediate filaments. Also acts as a negative regulator of apoptosis via its interaction with STK38 and STK38L; acts by antagonizing STK38 and STK38L activation by MST1/STK4. Involved in regulation of lamina-specific connectivity in the nervous system such as the development of lamina-restricted hippocampal connections. Through redox regulation of the actin cytoskeleton controls the intracellular distribution of secretory vesicles containing L1/neurofascin/NgCAM family proteins in neurons, thereby regulating their cell surface levels. May act as Rab effector protein and play a role in vesicle trafficking.[UniProtKB/Swiss-Prot Function]