

## Product datasheet for **RC227895**

### MICAL3 (NM\_001136004) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MICAL3 (NM_001136004) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MICAL3
Synonyms:	MICAL-3
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC227895 representing NM_001136004 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGAGGAGAGGAAGCATGAGACCATGAACCCAGCTCATGTCCTCTTTGACCGGTTTGCCAGGCCACCA  
CCTGCAAGGGAACCTCAAGGCTTCCAGGAGCTCTGTGACCACCTGGAAGCTAAAGCCAAAGGACTACCG  
CTCCTTCTATCACAAGCTCAAGTCCAAGCTTAAGTACTGAAAGCCAAAGCCCTCTGGGCAAAATTGGAC  
AAACGGGGCAGTCACAAAGACTACAAAAAGGAAAAGCGTGCCTAACACCAAGTGTCTCATCATTGGGG  
CTGGCCCTGTGGTCTCCGTACAGCCATCGACTTATCCTTACTGGGGCCAAGGTGGTTGTTATTGAGAA  
ACGAGATGCCTTCTCCGCAACAACGTCTTGCATCTCTGGCCATTACCATACATGATCTACGAGGTCTG  
GGTGCCAAGAAGTTCTATGGCAAGTTCTGTGCTGGAGCCATCGACCATATCAGTATCCGTGAGTCCAAC  
TAATACTTTTGAAGTAGCCTTGATCCTAGGCATTGAAATCCACGTCAATGTGGAATCCAAGGACTTAT  
ACAGCCTCCTGAGGACCAAGAGAATGAACGGATAGGCTGGCGGGCACTGGTGCACCCCAAGACTCATCCT  
GTGTCAGAGTATGAATTTGAAGTGATCATCGGTGGGATGGTGGAGGAACACCTTGAAGGGTTTCGTC  
GGAAAGAATTCGTGGCAAACTGGCCATCGCCATCACGGCAAATTTTATCAACCGAAATACAACAGCAGA  
AGCTAAAGTGGAAGAGATCAGTGGTGTGGCTTTTATTTCAACCAAAAATTTTCCAGGAACTGAGGGAA  
GCCACAGTATTGACTTGAGAAACATCGTTTACTACAAAGATGACACACACTATTTGCTTATGACAGCCA  
AAAAGCAGAGTTTCTGGACAAAGGAGTGATACTACATGACTACGCCGACACAGAGCTCCTGCTTCCCG  
AGAAAACGTGGACCAGGAGGCTCTGCTCAGCTATGCCAGGGAGGCGGAGACTTCTACCCAGCAGCAG  
CTGCCGCTCTGGATTTTGCATCAATCACTATGGGCAGCCGATGTGGCCATGTTTGACTTCACTTGTA  
TGTATGCCTCCGAGAACGCCCTTGGTGGGAGCAGAACGGACACCAGTACTAGTGGCTCTGGTCGG  
GGACAGCCTCCTAGAGCCTTTCTGGCCAAATGGGAACAGGAATAGCCGGGGCTTTCTAGCTGCTATGGAC  
TCTGCCTGGATGGTCCGAAGTTGGTCTCTAGGAACGAGCCCTTTGGAAGTGTGGCAGAGAGGGAAAGTA  
TTTACAGTTGCTGCCTCAGACCACCCCTGAGAATGTGAGTAAGAACTTACGCCAGTACAGTATCGACCC  
TGTCACCTCGGTATCCCAATATCAACGTCAACTTCTCCGCAAGCCAGGTGCGCCATTTATATGATACT  
GGCGAAACAAAAGATATTCACCTGGAAATGGAGAGCCTGGTGAATCCCGAACCCCAAAATTGACTC



GCAATGAGTCTGTAGCTCGTTCAAGCAAAGTCTGGGTTGGTGCCAGAGGCAGACAGATGGCTATGCAGG  
 GGTAACGTGACAGATCTCACCATGTCCTGGAAAAGTGGCTTGGCCCTTTGTGCAATTATCCATAGATAC  
 CGCCCTGACCTGATAGATTTTATTCTTTGGATGAGCAAATGTGGAGAAGAATAACCAACTGGCCCTTG  
 ACATTGCTGAGAAGGAATTGGGCATTTCTCCATCATGACAGGCAAAGAAATGGCCTCCGTGGGGAGCC  
 TGATAAGCTGCCATGGTGTGTACCTGACTCAGTTCTACGAGATGTTAAGGACTCCCTCCCCTTAGC  
 GACACCTTGGACCTAAATGCCGAGGAGAAAGCAGTCTGATAGCCAGCACCAGATCCCCTATCTCCTTCC  
 TAAGCAAAGTGGCCAGACCATCTCTCGAAGCGTTCTCCAAGGATAAAAAGGAAAAGGACTTGGATGG  
 TGCTGGGAAGAGGAGAAAAGACCAGTCAATCAGAGGAGGAGGAAGCTCCTCGGGGCCACAGAGGAGAAAG  
 CCGACCCTGGTGAGCACTCTGACAGACAGGAGGATGGACGTTGCCGTTGGGAACCAAGTGAAGT  
 ACATGGCGACCCAGCTGCTGGCCAAATTTGAAGAGAATGCGCCCGCACAGTCCATCGGCATACGGAGACA  
 GCAACGGGAAAAGGAGTGTCTCGGACCTGCCCAAAAAAGTGTACCCCTGTCTCCTCCCCTACTCCA  
 CCTCCCTGTGGGCACATGGCGGCCAGCAGACATACAGGGATCTTGATGCTGACAACCGTGGCAAGCAGA  
 GCCCCACCATGAGAGGCCAGAGCCTGAACCTCCTCGTCGATTTTTGTCGACCAGTGGGAGCTTTCTCT  
 TAGTCTCCGCTCCTGCCCCGCCGCTCCTCCTCCTCGACTCCCTCCGACAGAAGTATATAAGATG  
 TACACGGGCGGAGTGAGCTCATTGGCTGAGCAGATAGCCAATCAGCTTCAAAGGAAAAGAACAACCCAAAG  
 CCCTTCTAGACAAGAAGGAAGTGGGCTCCATGAAGAAGGAGTTCCCGCAGAACCTGGGAGGCAGCGACAC  
 ATGCTACTTCTGCCAGAAGCGGGTCTACGTGATGGAGAGGCTGAGTGCCGAGGGCAAGTCTTCCACCGG  
 AGCTGTTCAAGTGCAGTACTGCGCCACCACCCTGCGCCTCTCGGCCTACGCTACGACATCGAGGATG  
 GTAATTTCTACTGAAGCCACACTACTGCTATCGACTCTCTGGCTACGCACAAAGGAAGAGACCGGCAGT  
 GGCTCCCCTGTCTGAAAAGGAGGCCAAAGGACCCTGCAGGATGGCGCCACCACAGATGCAAACGGACGG  
 GCCAACGCCGTGGCCAGCTCCACTGAGAGAACCCAGGTAGCCTCACTTCTTGTGGTGGGTGGCGC  
 GTCACCTCCCTCGGCTCTGTGACAAGGCCAAGGGCATGAGCCAGCACCTCAAAGCAACATTTCTTATT  
 CGGGCAACAAGTGGCCAAAACCTCTGGACTCCTTTTTATGTGCCAGCTGCTTGGCTTGGAGTCCCG  
 TTTCTCTATGGCCTGTGGAGGTGCTGGTGCAAATCAGAGGGGAGTTCCTACTGGCAGGCTGTGCCACG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC227895 representing NM\_001136004

Red=Cloning site Green=Tags(s)

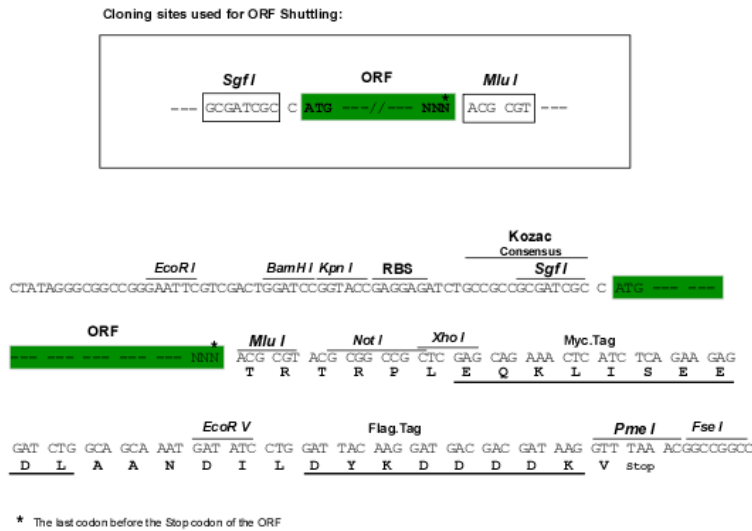
MEERKHEMTPAHVLFDRFVQATTCKGTLKAFQELCDHLELKPDKYRSFYHKLKSKLNYWKAKALWAKLD  
 KRGSKDYKKGKACTNNTKCLIIIGAGPCGLRTAIDL SLLGAKVVVIEKRDAF SRNNVLHLPFTIHDLRGL  
 GAKKFYKFCAGAI DHISIRQLQLILLKVALILGIEI HVNVEFQGLIQPPEDQENERIGWRALVHPKTHP  
 VSEYEFVVIIGDGRRNTLEGFRRKEFRGKLAIAITANFINRNTTAEAKVEEISGVAFIFNQKFFQELRE  
 ATGIDLENI VVYKDDTHYFVMTAKKQSLLDKGVILHDYADTELLL SRENV DQEALLSYAREAADFSTQQQ  
 LPSLDFAINHYQPDMVDFTCMYASENAALVREQNGHQLLVALVGD SLLPEF WPMGTGIARGFLAAMD  
 SAWMVRWSLGTSPLEVLAERESIYRLLPQTTPENVSKNFSQYSIDPVTRYPNINVNFLRPSQVRHLYDT  
 GETKDIHLEMESLVNSRTTPKLRNESVARSSKLLGWCQRQTDGYAGVNVDTL TMSWKSGLALCAI IHRY  
 RPDLDIFDSLDEQNVKNNQLAFDIAEKELGISPIMTGKEMASVGE PDKLSMVMYLTQFYEMFKDSLPS  
 DTLDLNAEEKAVLIASTRSPISFLSKLQGTISRKRSPKDKKEDLDGAGKRRKTSQSEEEAPRGHRGER  
 PTLVSTLTD RMDVAVGNQNKVKYMATQLLAKFEENAPAQSIGIRRQREKECSRTC PKKVITLSPPTP  
 PPCRAHGGQTYRDL DADNRGKQSPHHERPEPEPPRRFFVDQWELSLSLRSSARPASPSSDSL RQYIKM  
 YTGVS S LAEQIANQLQRKEQPKALLDKKELGSMKKEFPQNLGGSDTCYFCQKR VYMERLSAEGKFFHR  
 SCFKCEYCATT LRLSAYAYDIEDGKFYCKPHYCYR LSGYAQRKRPAVAPLSGKEAKGPLQDGATTDANGR  
 ANAVASSTERTPGSLTSLFGWVARHSLGLCDKAKGMSQHLQSNIS SFQQVAQNPLDSFFMCQLLAFGVP  
 FLYGLSEVLVQIRGEFHWQAVAQ

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

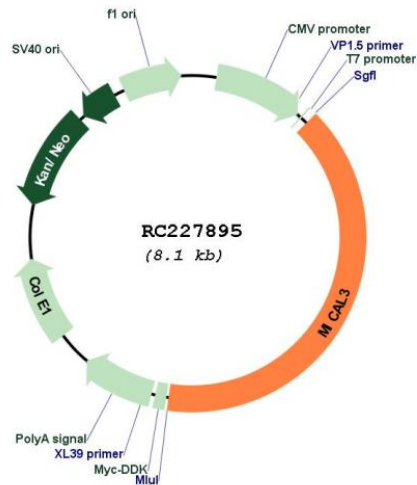
**Restriction Sites:**

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM\_001136004

ORF Size: 3219 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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_001136004.3</a></u>
<b>RefSeq ORF:</b>	3222 bp
<b>Locus ID:</b>	57553
<b>UniProt ID:</b>	<u><a href="#">Q7RTP6</a></u>
<b>Cytogenetics:</b>	22q11.21
<b>MW:</b>	121 kDa
<b>Gene Summary:</b>	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 <sub>2</sub> O <sub>2</sub> . Seems to act as Rab effector protein and plays a role in vesicle trafficking. Involved in exocytic vesicles tethering and fusion: the monooxygenase activity is required for this process and implicates RAB8A associated with exocytotic vesicles. Required for cytokinesis. Contributes to stabilization and/or maturation of the intercellular bridge independently of its monooxygenase activity. Promotes recruitment of Rab8 and ERC1 to the intercellular bridge, and together these proteins are proposed to function in timely abscission.[UniProtKB/Swiss-Prot Function]