

## Product datasheet for MC223357

### Mical1 (NM\_138315) Mouse Untagged Clone

#### Product data:

|                      |   |
|----------------------|---|
| Product Type:        | Expression Plasmids   |
| Product Name:        | Mical1 (NM_138315) Mouse Untagged Clone   |
| Tag:                 | Tag Free  |
| Symbol:              | Mical1  |
| Synonyms:            | MICAL; MICAL-1; Nical   |
| Vector:              | pCMV6-Entry (PS100001)  |
| E. coli Selection:   | Kanamycin (25 ug/mL)  |
| Cell Selection:      | Neomycin  |
| Fully Sequenced ORF: | >MC223357 representing NM_138315<br>Red=Cloning site Blue=ORF Orange=Stop codon |

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGCATCACCCGCTCCACCAACCCAGCACATGACCACTTTGAGACCTTTGTGCAGGCACAGCTGTGCC  
AGGATGTACTGAGTAGCTTTAGGGGCTCTGTAGAGCCCTGGGAGTGGAGTCTGGTGGGGATTGTCCCA  
GTACCACAAGATCAAGGCCAGCTCAACTACTGGAGTGCCAAGTCACTGTGGCCAAGTTGGACAAGAGA  
GCGAGCCAGCCTGTGTACCAGCAAGGCCAGGCCTGTACCAACACCAAGTGTCTCGTGGTAGGTGCCGGGC  
CTTGCGGACTTCGGGCTGCTGTGGAGTTGGCACTGTTAGGTGCCGAGTGGTACTTGTGGAAAAGCGTAT  
CAAGTTCTCTAGGCACAATGTGCTCCATCTCTGGCCCTTACCATCCATGACCTTCGGGCACTTGGGGCC  
AAGAAGTTCTACGGGCGCTTCTGTACTGGCACCCTGGACCATATCAGCATCCGACAGCTTCAGCTGCTTC  
TACTGAAGGTGGCCTTACTGTTGGGGTGGAGATTCAGTGGGGCGTCAAATTCAGTGGCTCCAGCCCC  
TCCCAGAAAAGGGAGTGGCTGGCGTGCTCAGCTCCAGCCCAACCCCAAGCCCAACTGGCCAGCTATGAG  
TTTGATGTCTCATCTCAGCTGCAGGAGGCAAATTTGTCCCTGAAGCTTCACTATACGAGAGATGCGTG  
GCAAACCTGGCCATTGGCATCACAGCCAACCTTTGTAATGGCGCACGGTGGAGGAGACACAGGTGCCGGA  
GATCAGTGGTGTAGCTCGAATCTACAACCAAAAATTCCTCCAGAGCCTGCTCAAAGCCACAGGTATTGAT  
CTGGAGAACATTGTATACTACAAAGACGAGACCCACTACTTTGTGATGACAGCCAAGAAGCAGTGCTCTGC  
TGAGGCTGGGGTGTGCGCCAGGACTTGTGAGAGTGTGAGTGTGGGCAAAGCTAATGTGGTACC  
GGAGGCTCTGCAGCGCTTGGCCAGAGCAGCGGCTGACTTCGCCACACATGGCAAGCTTGGGAACTGGAG  
TTTGCTCAGGATGCACGCGGGCGGCTGATGTGGCGGCTTCGACTTCACAAGCATGATGCGGGCAGAGA  
GTTCCGCTCGTCCAAGAAAAGCATGGTGTGCTCGCTACTGCTGGGGCTGGTGGGGGACTGCCTAGTGA  
GCCCTTCTGGCTCTGGCACTGGAGTAGCCCGAGGCTTCTTGGCAGCCTTCGATGCAGCCTGGATGGT  
AAGCGGTGGGCAGAGGGCGCTGGCCGCTAGAGGTGTTGGCTGAACGCGAGAGCTTGTACCAGCTTCTGT  
CACAAACATCCCCGAGAATATGCATCGAAATGTAGCCAGTATGGGTTGGACCTGCCACCCGATACCC  
CAACCTGAACCTCCGGCTGTAACCCCAATCAGGTACAGGACCTCTATGATATGATGGACAAGGAGCAT  
GCTCAGAGGAAGAGTGACGAGCCGGATTCCAGGAAGACAACCACAGGTCGCCAGGCACGGAGGAGCTTC



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TGCACTGGTGCCAGGAGCAGACAGCTGGCTTTCCTGGAGTCCATGTCACTGACTTTTCTTCTCCTCGTGGG
TGATGGGCTAGCTCTGTGTGCCCTGGTACACCACCTACAGCCTGGCCTGCTGGAACCTCGGAGCTGCAG
GGCATGGGAGCTCTAGAAGCCACTACCTGGGCACTGAGGGTGGCAGAACATGAGCTAGGCATCACACCAG
TGTTGTCTGCACAGGCAGTCATGGCTGGCAGTGACCCACTGGGTCTCATTGCCTACCTCAGCCACTTCCA
CAGTGCCTTCAAGAACACGAGCCACAGCTCAGGCCTTGTGAGCCAGCCCTCTGGAACCCAGTGCATATA
CTTTTCTTGGCAAATCCAGAGGAGCCTACAACGGACCCGCGCAAGGTAGACGAGGAGACTCCGAGCA
CTGAGGAGCCGCTGTCTCCGAGCCAGTATGTCTCAAACACTCCAGAGCTCTCTGAACACCAGGAGGC
TGGGGCAGAGGAGCTGTGTGAACCTGTGGGAAACATCTGTACATCCTAGAACGCTTCTGTGTGGATGGC
CATTTCTTTCACCGGAGCTGCTTCTGCTGCCATACCTGTGAGGCCACATTGTGGCCAGGTGGCTATGGGC
AACATCCAGGAGATGGACATTTCTACTGTCTCCAGCACCTACCCAGGAGGACAAAAGGAGGCTGACAA
CAATGGAAGTCTGGAGAGCCAGGAGCTCCCAACACCAGGAGACAGCAACATGCAGCCAGACCCCTCTCT
CCTCTGTGACGAGGGTACGCCCTGTCCCAAGCCCGAGCCAGCCTGCACGTGCGGTGATCCGGCTCTCCA
GTTTAGAACGCCTACGGCTGTCTCCCTGAATATCATCCCTGACTCAGGAGCGGAGCCTCTCCCAAACC
CCCAAGGAGCTGCTCAGACTTGGCCCGAGAATCCCTGAAGAGCAGCTTTGTGGGTGGGGTGTGCCAGTC
CAAGCACCACAAGTTCTGAAGCCATAGAGAAAGGGGATGATGAGGAGGAGGAAGAGGAAGAAGAGGAGG
AGGAGGAGGAGCCACTGCCACCTTTGGAGCCAGAGTTGGAGCAGACTCTGCTGACCTTGGCCAAGAACCC
AGGTGCCATGACTAAGTACCCAACGTGGCGTCAACCCCTCATGCGCCGTGCCAAAGAGGAGGAGATGAAG
AGGTTTTGCAAGGCCAGGCCATCCAGCGAAGACTGAACGAGATTGAGGCCACTATGCGGGAGCTGGAGG
CCGAAGGCACGAAGCTGGAGCTGGCCTTGGAGAAAGAGAGTAGCTCTCCAGAACAGCAGAAGAACTCTG
GCTGGATCAGCTGCTACGGCTCATTGAGAAGAAGACAGCCTAGTGACTGAAGAGGCCGAGCTCATGATC
ACGGTGCAGGAGCTGGATCTGGAAGAGAAGCAGCGGCAGCTAGACCACGAGTTGCGGGGTACATGAATC
GGGAAGAACTATGAAGACAGAGGCCACTGCAGTCTGAGAACCAGGTCTAAGGAAGCTGTTGGAGGT
GGTGAACCAGCGGATGCTCTGATCCAATTCAGGAGGAACGGAGGCTCAGAGAGATGCCTGCATAG
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ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA
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**Restriction Sites:**

SgfI-MluI

**ACCN:**

NM\_138315

**Insert Size:**

3147 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](mailto: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](#)

**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\\_138315.2](#), [NP\\_612188.1](#)

**RefSeq Size:** 3563 bp

**RefSeq ORF:** 3147 bp

**Locus ID:** 171580

**UniProt ID:** [Q8VDP3](#)

**Cytogenetics:** 10 B1

**Gene Summary:** Monoxygenase 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> (By similarity). 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]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform (1).