

## Product datasheet for **RN215071**

### Zc3h12a (NM\_001077671) Rat Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Zc3h12a (NM_001077671) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Zc3h12a
Synonyms:	MCPIP-1; Reg1; RGD1306776
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >RN215071 representing NM\_001077671  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGTGACCCTGTGGGAAGAACTTGTCCAAGAAATCAGCCCCACCATGAGTCTGTGGGGCTTGAGG  
 ACAGACACAGCTGCCAAGGTCAACCTCAGCCAGACCAGGATCCTGTGGCTAAAGAGGCCTCTGCTCCGA  
 GCTGCAGATGAAGGTGGACTTTTTCCGTAACCTGGGATACTCGTCTTCTGAGATCCACAGTGCCCTGCAG  
 AAGCTGGGAGTCCAAGCAGACACCAACACGGTGTGGGGAGCTGGTGAAGCACGGTTTCAGTACTGAAC  
 GAGAGTGCCAGGCCTCCACAGACCCCTGCCCCAGCCCCCTGTGGTCCCGGGGTGGAAGCACCCCAA  
 GCCTTCCACTGTAGAACCCTCACTCCCAGAGGAGGACAAAGAGAGCAGTGACCTGAGACCAGTGTCATC  
 GACGGAAGCAACGTGGCCATGAGCCATGGGAACAAGAAGTCTTCTCCTGCCGGGCATTTTGTGGCTG  
 TGAAGTGGTTTCTGGAGCGGGCCATACAGACATCACCGTGTGGTCCATCGTGGAGGAAGGAACGCC  
 TCGGCCAGATGTGCCTATCACAGACCAGCACATCTGCGGGAAGTAGAGAAAAAGAGATCCTGGTGTTC  
 ACGCCATCCAGCGGGTTCGGTGGCAAGCGTGTAGTGTGCTACGATGACCGATTTCATTGTGAAGCTGGCCT  
 ATGAATCCGACGGAGTGGTGGTGTCCAATGACACATACCGGGACCTCCAAGGCGAGAGGCAGGAGTGAA  
 GCGCTTACGAGGAGAGGCTGCTCATGTACTCCTTCGTCATGACAAGTTCATGCCCCCTGACGACCTT  
 TTAGGACGCCACGGGCTAGCCTGGACAACCTCCTGCGTAAGAAACCACTGCCTTCTGAACACAGGAAGC  
 AGCCATGTCCCTATGGGAGAAAAATGACTTATGGAATCAAGTCCCGGTTCTTCCACCCGGAGCGCCAAG  
 CCGCCCCAGCGCTCTGTGGCTGATGAGCTCCGGGCCAACGCCCTTCTCCTCGCCCCAGGACTCCAGTC  
 AAGGACAAAAGTAGCCAGAGGCCTTCCCCTGCCTCAGCCCAACTCCATGTCCCTAGAGGCTGAGCCAG  
 GCAGCCCAGATGGGAAAAAACTGGGTACCAGATCCTCCCAGGCCCCCAAGAAAGGCTCAACACAGAC  
 CTGTGCTCCGGCTGGCAGGAGCCTCCCTGTAGTGGGGGAGCTTTGGGCCACAGAGTGGCTCCACAC  
 ACCCTGGACTCGCTCCCATACACCTCCCAGGAGTGCCTTGATTCAGGCATTGGCTCCCTGGAGAGCCAGA  
 TGTGAGAAATTGTGGGGTTCGAGGAGGTAGCCCTGGGGAGTCCGGCCCCACTCGGGTCTTATACTGG  
 TTACCAAACCTATGGATCCAAGCTCCCTGCAGCGCCTGCCTTTTCTCCCTTAGACAAGCCATCGGTA  
 GGCCATTCAGTGTCCCAACCGACTATGTGCCCGCCACCCACCTACCCAGCCAGAGAGTACTGGTCTG  
 AGCCATACCCATTGCCCCACCCACTCCAGTCTTCCAGGAGCCCCAGAGACCCAGCCAGGCGCAGTGG  
 GGACCCCTGGGGCAGGTGAGCGACCTGGCCAAAGAAAGGGCTGGTGTGTATACCAAGCTGTGTGGTGT  
 TTTCCCCACACCTGGTAGAAGCTGTGATGGGTGTTTTCCACAGCTCCTGGACCCAGCAGCTGGCCG  
 CTGAGATCCTTTCTACAAGTCCAGCACCTCAGTGAG**TAA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI

**ACCN:** NM\_001077671

**Insert Size:** 1791 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:**

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\\_001077671.1](#), [NP\\_001071139.1](#)

**RefSeq Size:** 2567 bp

**RefSeq ORF:** 1791 bp

**Locus ID:** 313587

**UniProt ID:** [A0JPN4](#)

**Cytogenetics:** 5q36

**Gene Summary:**

Endoribonuclease involved in various biological functions such as cellular inflammatory response and immune homeostasis, glial differentiation of neuroprogenitor cells, cell death of cardiomyocytes, adipogenesis and angiogenesis. Functions as an endoribonuclease involved in mRNA decay. Modulates the inflammatory response by promoting the degradation of a set of translationally active cytokine-induced inflammation-related mRNAs, such as IL6 and IL12B, during the early phase of inflammation. Prevents aberrant T-cell-mediated immune reaction by degradation of multiple mRNAs controlling T-cell activation, such as those encoding cytokines (IL6 and IL2), cell surface receptors (ICOS, TNFRSF4 and TNFR2) and transcription factor (REL). Inhibits cooperatively with ZC3H12A the differentiation of helper T cells Th17 in lungs. They repress target mRNA encoding the Th17 cell-promoting factors IL6, ICOS, REL, IRF4, NFKBID and NFKBIZ. The cooperation requires RNA-binding by RC3H1 and the nuclease activity of ZC3H12A (By similarity). Self regulates by destabilizing its own mRNA. Cleaves mRNA harboring a stem-loop (SL), often located in their 3' UTRs, during the early phase of inflammation in a helicase UPF1-dependent manner (By similarity). Plays a role in the inhibition of microRNAs (miRNAs) biogenesis (By similarity). Cleaves the terminal loop of a set of precursor miRNAs (pre-miRNAs) important for the regulation of the inflammatory response leading to their degradation, and thus preventing the biosynthesis of mature miRNAs (By similarity). Plays also a role in promoting angiogenesis in response to inflammatory cytokines by inhibiting the production of antiangiogenic microRNAs via its anti-dicer RNase activity (By similarity). Affects the overall ubiquitination of cellular proteins. Positively regulates deubiquitinase activity promoting the cleavage at 'Lys-48'- and 'Lys-63'-linked polyubiquitin chains on TNF receptor-associated factors (TRAFs), preventing JNK and NF-kappa-B signaling pathway activation, and hence negatively regulating macrophage-mediated inflammatory response and immune homeostasis (By similarity). Induces also deubiquitination of the transcription factor HIF1A, probably leading to its stabilization and nuclear import, thereby positively regulating the expression of proangiogenic HIF1A-targeted genes. Involved in a TANK-dependent negative feedback response to attenuate NF-kappaB activation through the deubiquitination of IKBKG or TRAF6 in response to interleukin-1-beta (IL1B) stimulation or upon DNA damage (By similarity). Prevents stress granules (SGs) formation and promotes macrophage apoptosis under stress conditions, including arsenite-induced oxidative stress, heat shock, and energy deprivation. Plays a role in the regulation of macrophage polarization; promotes IL4-induced polarization of macrophages M1 into anti-inflammatory M2 state. May also act as a transcription factor that regulates the expression of multiple genes involved in inflammatory response, angiogenesis, adipogenesis and apoptosis (By similarity). Functions as a positive regulator of glial differentiation of neuroprogenitor cells through an amyloid precursor protein (APP)-dependent signaling pathway (By similarity). Attenuates septic myocardial contractile dysfunction in response to lipopolysaccharide (LPS) by reducing I-kappa-B-kinase (IKK)-mediated NF-kappa-B activation, and hence myocardial proinflammatory cytokine production (By similarity).[UniProtKB/Swiss-Prot Function]