

Product datasheet for **MR209270**

Zc3h12a (NM_153159) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Zc3h12a (NM_153159) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Zc3h12a
Synonyms:	BC036563; MCPIP; MCPIP-1; Mcpip1; Reg1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR209270 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGAGTGACCCTTGTTGGAACGAAGCCTGTCCAAGAATCCAACCCACCATGAGTCTGTGGAGTCTTGAGG
 ACAGACACAGCAGCCAGGTCGACCTCAGCCAGACCAGGATCCTGTGGCTAAAGAGGCCCTACTCCGA
 GCTGCAGATGAAGGTGGACTTTTTCCGTAACCTGGGTAAGTCTGAGATCCACAGTGTCTGCGAG
 AAGCTGGGAGTCCAAGCAGACACCAACACGGTGTAGGGGAATTGGTGAAGCATGGCTCAGCTACTGAAC
 GAGAATGCCAGGCCCTGACGGCCCCAGCCCCAGCCCCCTGTGGTCCCCGGGGTGAAGCAGCCCCAA
 GCCTTCCACTCTAGAACCCTCACTCCCAGAGGAGGACAGAGAGGGCAGCGACCTGAGACCTGTGGTCATC
 GACGGAAGCAATGTGGCCATGAGCCATGGGAACAAGGAAGTCTTCTTCCGGGGCATTCTGCTGGCTG
 TGAAGTGGTTTCTGGAGCGAGGCCACACAGATATTACCGTGTGGTCCATCTGGAGGAAGGAACAGCC
 TCGACCAGATGTGCCTATCACAGACCAGCACATCCTTCGGGAAGTACAGAAAAAGAGATCTTGGTGTTC
 ACGCCATCCAGGCGGGTTCGGCGCAAGCGCGTGGTGTGCTATGATGACCGCTTATTGTGAAGCTGGCCT
 TCGAATCCGACGGAGTGGTGGTCTCAATGACACGTACCGAGACCTCAAAGGCGAGAGGCAGGAGTGGAA
 ACGCTTACATCGAGGAGCGGCTGCTCATGTACTCCTTCGTAAGCAAGTTCATGCCCCCTGACGACCTT
 TTAGGACGGCATGGGCCTAGCCTGGACAACCTCCTTCGTAAGAAACCACTGCCTTCTGAGCACAGGAAGC
 AGCCATGCCCTATGGGAAGAAATGTACGTATGGAATCAAGTGGCGATTTTTCCACCCTGAGCGGCCAAG
 CCGTCCCAGCGCTCTGTGGCCGATGAGCTCCGTGCCAACGCTCCTCTCACCTCCCAGGACTCCAGTC
 AAGGACAAAAGTAGCCAGAGGCCTTCCCCTGCCTCAGTCCAGCTCTGTGTCCCTAGAGGCTGAACCCAG
 GCAGCCTGGATGGGAAAAGCTGGGTGCCAGGTCATCTCCGGTCCCCACCGAGAAGGCTCACCCAGAGC
 CTGTGCTCCAGCTGGCAGGAGCCTCCCTGTTAGTGGGGGCACTTTGGGCCACAGAGTGGCTTGCACAC
 ACCCAGGACTCACTCCCATAACCTCCCAGGAGTGCCTTGATTAGGCATTGGTCCCTGGAGAGCCAGA
 TGTGAGAAATATGGGGCGTGCAGGAGGCGACCCCTGGGGAGTCCGGGCCCACTCGGGGCCCTATGCAGG
 TTATCACAGCTATGGATCCAAGGTCCCAGCAGCACCTTCTTTTCTCTTTAGACCAGCCATGGGTGCT
 GGCCACTTCAGTGTCCCCACCGACTATGTGCCCCGCCACCCACCTACCCATCCAGAGAGTACTGGTCTG
 AGCCGTACCCATTACCCCAACCCACTCCTGTCTTCCAGGAGCCCCAGAGACCCAGCCCCGGGCTGGTGG
 GGGCCCTGGGGCAGGTTGGGTGACCTGGCCAAAGAAAGGGCTGGTGTATATACCAAGCTGTGTGGTGTG
 TCCCCCACACCTGGTAGAAGCTGTAATGAGACGCTTCCCACAGCTGCTGGATCCGAGCAGCTGGCCG
 CAGAGATCTGTCTTACAAGTCCCAGCACCTCAGTGAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR209270 protein sequence
 Red=Cloning site Green=Tags(s)

MSDPCGTPVQESNPTMSLWSLEDRHSSQGRPPDQDPVAKEAPTSELQMKVDFRKLGYSSSEIHSVLIQ
 KLVQVQADTNTVLGELVKHGSATEREQAL TAPSPQPPLVPRGGSTPKPSTLEPSLPEEDREGSDLRPVVI
 DGSNVAMSHGNKEVFSCRGILLAVNWFLEGRHTDITVFPVSWRKEQPRPDVPI TDQHILRELEKKKILVF
 TPSRRVGGKRVVYDDRFIVKLAFESDGVVSNDTYRDLQGERQEWKRFIEERLLMYSFVNDKFMPPDDP
 LGRHGPSLDNFLRKKPLPSEHRKQPCPYGKKCTYGIKCRFFHPERPSRPQRSVADEL RANALLSPPRTPV
 KDKSSQRPSPASQSSSVLEAEPGSLDGKLLGARSSPGPHREGSPQTCAPAGRSLPVSGGSFGPTEWLAH
 TQDSLPTYTSQECLDSGIGSLESQMSLWGVRRGSPGESGPTRGYPYAGYHSYGSKVPAAAPSFSPFRPAMGA
 GHFSVPTDYVPPPTYP SREYWSEPYPLPPPTV LQEPQRPSPGAGGGPWGRVGLAKERAGVYTKLCG
 FPPHLVEAVMRRFPQLLDPQQLAAEILSYKSQHLSE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_153159

ORF Size: 1791 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_153159.2](#)

RefSeq Size: 2805 bp

RefSeq ORF: 1791 bp

Locus ID: 230738

UniProt ID: [Q5D1E7](#)

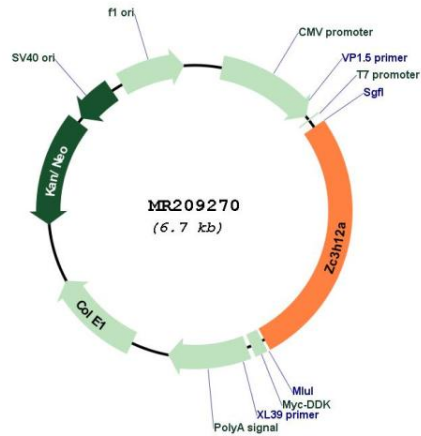
Cytogenetics: 4 D2.2

MW: 65.6 kDa

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 (PubMed:26000482). 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 (PubMed:19322177, PubMed:21115689, PubMed:23185455, PubMed:26000482). 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) (PubMed:23706741, PubMed:26000482, PubMed:19322177, PubMed:21115689, PubMed:23185455). 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 (PubMed:25282160). Self regulates by destabilizing its own mRNA (PubMed:22037600). 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 (PubMed:19322177, PubMed:23185455, PubMed:23706741, PubMed:26000482, PubMed:26134560). 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 (PubMed:21115689). 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 (PubMed:21115689). 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 (PubMed:21971051). Plays a role in the regulation of macrophage polarization; promotes IL4-induced polarization of macrophages M1 into anti-inflammatory M2 state (PubMed:25934862). May also act as a transcription factor that regulates the expression of multiple genes involved in inflammatory response, angiogenesis, adipogenesis and apoptosis (PubMed:18178554, PubMed:19666473, PubMed:22739135). 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 (PubMed:21616078).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR209270