

Product datasheet for **MC223293**

Nlrp3 (NM_145827) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Nlrp3 (NM_145827) Mouse Untagged Clone
Tag: Tag Free
Symbol: Nlrp3
Synonyms: AGTAVPRL; AII/AVP; Cias1; FCAS; FCU; Mmig1; MWS; NALP3; Pypaf1
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC223293 representing NM_145827
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGACGAGTGCCGTTGCAAGCTGGCTCAGTATCTAGAGGACCTGAAGATGTGGACCTCAAGAAATTC
AAATGCATTTGGAAGATTACCCGCCGAGAAAGGCTGTATCCCAGTCCCCAGGGCCAGATGGAGAAGGC
AGATCACTTGGATCTAGCCACACTCATGATTGACTTCAATGGCGAGGAGAAGGCCTGGGCCATGGCTGTG
TGGATCTTTGCTGCGATCAACAGGCGAGACCTCTGGGAAAAAGCTAAGAAGGACCAGCCAGAGTGGAAATG
ACACGTGTACATCACATTCCTCTATGGTATGCCAGGAGGACAGCCTTGAAGAAGAGTGGATGGGTTTGTCT
GGGATATCTCTCCCGCATCTCCATTTGTAAAAAGAAGAAAGATTACTGTAAGATGTACAGACGACATGTG
AGAAGCAGGTTCTACTCTATCAAGGACAGGAACGCGCTCTAGGTGAGAGTGTGGACCTCAACAGTCGCT
ACACGCAGCTCCAAGTGGTCAAGGAGCATCCAAGCAAGCAGGAGCGGGAGCATGAACTCTGACCATCGG
CCGGACTAAAAATGCGGGACAGCCCCATGAGTTCCTTAAGCTGGAGCTGCTGTTTGGCCGAGGACGGG
CACTCGGAGCCTGTGCACACAGTGGTGTCCAGGAGCAGCAGGCATCGGAAAACCATCTAGCCAGTA
AGATTATGTTGGACTGGGCACTGGGAAAGCTCTCAAAGACAAATTTGACTATTTGTTCTTTATCCCA
CCGAGAGGTGAGCCTCAGGACGCCAAGGAGTCTAGCAGACCTGATTGTCAGCTGCTGGCCTGACCCAAAC
CCACCAGTGTGCAAGATCCTGCGCAAGCCTTCCAGGATCCTTCTCCTCATGGATGGCTTTGATGAGCTAC
AAGGGGCTTTGACGAGCACATTGGGGAGTCTGCACAGACTGGCAAAAGGCTGTGCGGGGAGACATTCT
GCTAAGCAGCCTCATCCGAAAGAACTGCTGCCAAGGCCTCTCTGCTCATAACGACGAGCCGGTAGCC
TTGGAGAACTGCAGCATCTCCTGGACCACCCCGCCATGTGGAGATCCTAGGTTTCTCTGAGGCCAAAA
GGAAGGAGTATTTCTTTAAGTATTTCTCAACGAGCTGCAGGCCCGGAGGCCTTCAGGCTGATCCAAGA
GAATGAGGTCCTTTACCATGTGCTTCATCCCCCTGGTCTGCTGGATTGTGTCACGGGGCTAAAGCAA
CAGATGGAGACCGGAAGAGCCTGGCCCAGACCTCCAAGACCACTACGGCCGTCTACGTCTTCTCTCTTT
CCAGCCTGCTGCAATCCCGGGGGGCATTGAGGAGCATCTCTTCTGACTACCTACAGGGGCTCTGTTC
ACTGGCTGCGGATGGAATTTGAAACCAGAAAATCCTATTTGAGGAGTGTGATCTGCGGAAGCAGGCCTG
CAGAAGACTGACGTCTCCGCTTCTGAGGATGAACGTGTTCCAGAAGGAAGTGGACTGCGAGAGATTCT



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ACAGCTTCAGCCACATGACTTTCCAGGAGTTCTTCGCTGCTATGTACTATTTGCTGGAAGAGGAGGCAGA
GGGGGAGACCGTGAGGAAAGGACCAGGAGGTTGTTGATCTTCTGAACCGAGACGTGAAGGTCCTACTA
GAAAATTACGGCAAGTTTAAAAAGGCTATCTGATTTTTGTTGTCCGATTCTCTTTGGCCTTGTAACC
AGGAGAGAACCTCTTATTTGGAGAAGAACTAAGTTGCAAGATCTCTCAGCAAGTCAGACTGGAACACT
GAAGTGGATTGAAGTAAAAGCCAAAGGCCAAGAAGCTGCAGTGGCAGCCCAGCCAACTGGAACCTGTTCTAC
TGCCTGTACGAGATGCAGGAGGAAGACTTTGTGCAGAGTGCCATGGACCCTTTCCAAAAATTGAGATCA
ACCTCTACCAGAAATGGACCACGTGGTTTCTCCTTTTTGTATTAAAGAACTGTCATAGGGTCAAACGCT
TCCCTGGGTTTTTTTCCAACTCGCCCAAGGAGGAAGAAGAAGAGAGGAGGAGGTCGACCCTTGGAC
CAGGTTACAGTGTTTTTCCAGACACTCATGTTGCCTGTTCTTCCAGACTGGTGAACCTGCTGCCTCACTT
CTAGTCTTCCGCTGGTCTCTTCTCAAGTCTAAGCACCAACCGGAGCCTCACTGAACTGGACCTCAGTGA
CAATACTCTGGGAGACCCGGGCATGAGGGTGTGTGTGAGGCACTCCAGCACCCAGGCTGTAACTTTCAG
AGACTGTGGTTGGGGCGCTGCGGACTGTCCATCAATGCTGCTTCGACATCTCTCTGCTGAGCAGCA
GCCAGAAGCTGGTGGAGCTGGACCTCAGTGACAATGCCCTGGGGACTTTGGAATCAGATTGCTGTGTGT
GGGACTGAAGCACCTGCTCTGCAACCTCCAGAACTGTGGTTGGTGGAGCTGCTGTCTCACATCCGCGTGT
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GTTGGTGAATCCGGCCTTACTTCAATCTGTTGTTTCAGCTCTGACCTCTGTGCTCAAACCAACCAGAAC
TTCACACACCTCTATCTACGAAGCAATGCCCTGGAGACACAGGACTCAGGCTCCTCTGTGAGGGGCTTC
TGCACCCGGACTGTAACCTACAGATGCTGGAATTAGACAAGTGCAGCCTCACCTCACACAGCTGTGGAA
TCTCTCCACAATTCTGACCCACAACCACAGCCTTCGGAAGCTGAACCTGGGCAACAATGATCTTGGCGAT
CTGTGCGTGGTGACCCTGTGTGAGGTGCTGAAACAGCAGGGCTGCCTCCTGCAGAGCCTACAGTTGGGTG
AAATGACTTAAATCGTGAACAAAACGTGCCTTAGAAGCGCTCCAGGAAGAAAAGCCTGAGCTGACTAT
AGTCTTCGAGATTCTGGTAG
    
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ACGCGTACGCGGCCGCTCGAGCAGAAAACCTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:

SgfI-MluI

ACCN:

NM_145827

Insert Size:

3102 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 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_145827.3](#), [NP_665826.1](#)

RefSeq Size: 4021 bp

RefSeq ORF: 3102 bp

Locus ID: 216799

UniProt ID: [Q8R4B8](#)

Cytogenetics: 11 B1.3

Gene Summary: As the sensor component of the NLRP3 inflammasome, plays a crucial role in innate immunity and inflammation. In response to pathogens and other damage-associated signals, initiates the formation of the inflammasome polymeric complex, made of NLRP3, PYCARD and CASP1 (or possibly CASP4/CASP11). Recruitment of proCASP1 to the inflammasome promotes its activation and CASP1-catalyzed IL1B and IL18 maturation and secretion in the extracellular milieu (PubMed:28847925). Activation of NLRP3 inflammasome is also required for HMGB1 secretion (PubMed:22801494). The active cytokines and HMGB1 stimulate inflammatory responses. Inflammasomes can also induce pyroptosis, an inflammatory form of programmed cell death. Under resting conditions, NLRP3 is autoinhibited. NLRP3 activation stimuli include extracellular ATP, reactive oxygen species, K(+) efflux, crystals of monosodium urate or cholesterol, amyloid-beta fibers, environmental or industrial particles and nanoparticles, cytosolic dsRNA, etc. However, it is unclear what constitutes the direct NLRP3 activator. Activation in presence of cytosolic dsRNA is mediated by DHX33 (By similarity). Independently of inflammasome activation, regulates the differentiation of T helper 2 (Th2) cells and has a role in Th2 cell-dependent asthma and tumor growth. During Th2 differentiation, required for optimal IRF4 binding to IL4 promoter and for IRF4-dependent IL4 transcription. Binds to the consensus DNA sequence 5'-GRRGGNRGAG-3'. May also participate in the transcription of IL5, IL13, GATA3, CCR3, CCR4 and MAF (PubMed:26098997).

[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longest transcript. Variants 1 and 2 encode the same protein. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.