

Product datasheet for **RN201861**

Nlrp1a (NM_001145755) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Nlrp1a (NM_001145755) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Nlrp1a
Synonyms:	Nalp1; Nlrp1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>RN201861 representing NM_001145755 Red=Cloning site Blue=ORF Orange=Stop codon

TTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAAGAATCTCAGTCCAAGCAGGAAAGTAACACAAGGGTGGCTCAGCATGGAAGCCAACAGGATGTGG
ACCCACCTTCCAAACAAAGAGAGCATTGGAGAAGGAGCGGTCAAACCCAGACCCCGCCGCTTCTCG
GGTGCAGCTCCAATCACTTCTGGATGGTCCAGCACATCCAATGATGTGCCCTTAGCCAGCTCATCCGT
GAAATGGATCATGAGTCAAGGAGATGCATTATCGATCAAAGAAGAACTTGACAGGTCTGAACATATAA
GCCAAGGGACCATTCAGAAATATATGAGAAGCGAAAAGAGACTATTTCCACACACAGTCCATGGAACA
AAAGTATTTGTTCCAAAATTTCAAAAGCTACTACTCCTACAAAATGTTGCCCAGGAGGCTCAGAGAAA
TTGGTCAGGGAAGCTGGCATCCATGTGTACCAGAAGAAGGAGGACATATGATTGAGATCCAAGACTTAT
TTGACCCAACTTAGATACTGAGAAAAAGCCTCAATTAGTCATAATAGAGGGGGCTGCTGGGATTGGGA
GTCAACACTGGCCAGGCAGGTGAAGAGAGCCTGGGACGAAGGCCAGCTCTACAGGGATCGCTTCCAGCAT
GTCTTCTTCTCAGCTGCAGAGAGCTGGCCAGTGCAAGCAGCTGAGTCTGGCTGAGTCTATAGCCAAAG
GCCAGGAAGTGCCACAGCTCCACACAGACAGATCCTGTCTCGCCCTGAGAAGCTGCTTTCATCCTGGA
TGGCATAGATGAGCCAGCATGGGTCTTGGAGGACCAGAATCCTGAGCTGTGTGTGCACTGGAGTCAAGCA
CAACCTGTGCACACACTGCTGGGCAGTTTACTAGGAAAATCCATCCTTCTGAGGCTTCTTAATGCTCA
CAGCTCGGACCACAGCTCTACAGAAGCTTGTTCCTTCTTGGGGCAGCCACATCGAGTGGAAGTCCCTGGG
GTTCTCTGAGTTTGAACGGAAGGACTATTTCTACAAATACTTTGCAAAAGAAAGAAATACAATTATAGAT
TTTAATTTAATTGGATCTATCCAGTGCTCCTGACCCTATGTGAGGTCCCCTGGGTGTGCTGGTGCTGT
GCATTGCCTGGAAGCAGATGCAGCAGGGTGAAGTACTCTCACTGACCTCACAGACCACACAGCCCT
CTGCCTGAAATACCTTTCCCTGACAATCCAGGTGAGCACCTGAGCACCCAGCTCAGGACCTCTGCTCA
CTGGCTGCTGAGGGGATCTGCCAAGAAGGACCCTGTTCAAGTAAAGTACCTCTGTAAGCAAGGGTTAG
CAGAGGATGCCATTGCCACTTCTGAAGATCGGTGTCCTTCAAAGGCAGCCAGCTCTCTGAGCTACAG
CTTGCCCACTTGTGTCTCCAGGAGTCTTGTGAGCGATGTCCTACATCTTGAGGATAGTGAGGAAGCA



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CATGGGGATATGGGAAACGACAGAACTGTGAAACACTGGTAGAACGGTATGGAAGACAAAACCTGTTTG
 AGGCACCCACTGTGCGCTTTCTACTTGGTCTTTTAAATACACGGGAAATGAGAGAAATGGAAATATCTT
 TGCCTGCAAGTTTCTTGGGAGACAAAGTTGAAGTTGCTACAGAGCATCATAGGGGAGCCGTTCTGTCAA
 CCATGTCATCTGGGTTTGTTCCTGTCTATGAAAACAGGAAGAGGAGCTCCTGACAGAGACGATGC
 TTTGTTTTCCCTTAACAGCGTCAGGTCCAAATCACATGGAAGCCACGGTGTCCAGACAAACGTGAAGCG
 CCTGGTGATACAGACAGACATGGAGTCTATGGTGGTCACTTTCTGCATTACGTTCTCTCATGTGAGGAGT
 CTTCCGGCTGAAGGGGAAAGGACAGCAGGAATATAAGCTAACAGCACCTGCGATGGTTCTGTACAGGTGGA
 CACCAATCTCTGAGGCCAGTTGGAAGGTTTTATTCTCCAATCTTAAATGCACCAGAAACCTGGAGGAGCT
 GGACCTAAGTGGAAATCCACTGAGCTACTCTGCAGTACGAGTCTCTGTACAGCACTGAGACAGCCTGGC
 TGCCGACTAAAGACCTTGTGGCTTGTGGACTGTGGCTCACATCCAGATGCTGCTCATTCTGGCCTCAA
 TGCTCAGTGCCCACTCAAGGTTGGCTGAAGTACAGCTGCGACTGAATGACCTTGGTGACAACGGTGTGAG
 GCAGCTGTGTGAGGGCTCAGGAATCTGCCTGCAACCTCAGCATCTGCGGCTGGACCAGGCTCTCTC
 AGTGAGCAGGTGATTACAGAGCTCAGGGCCCTGGAGACAAAGAATCCGAAGCTGTTTCATCTCCAGCACAT
 GGATGTCACACATGACGATGCCCACTGAAAACACAGATGGAGAAGAGAGCCTGACCTCATCAAGCAGCA
 ACAACAACATCGGGAGACAAACACATGGAACCTCTGGGACTGATGATGACTTCTGGGGCCCTTCAGGA
 CCTGTGTCTACTGAGGTGGTTGACAGAGAGAGGAACCTGTACCGAGTGCGATTGCCCATGGCTGGTTCTCT
 ACCACTGTCCCAGCACAGGACTCCACTTTGTGGTGACAAGGGCAGTGACATCGAGATTGGATTCTGTGC
 CTGGAGCCAATTCCTGCATGAGACTCCCTTGCAACACAGTCACATGGTGGCTGGACCTCTGTTTGACATC
 AAGGCTGAGCAGCGAGCTGTGACTGCAGTGTGCCTCCCTCATTTTGTGTCCCTCAAGAGGGAAAGGTGG
 ACAGCTCCTTGTTCATGTTGCCCACTTCCAAGACCATGGGATGGTCTAGAAACGCCAGCAAGGGTGA
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 GTGGGACACTTCATCCCATCACTTCCATCACATTGATCTACTATCGCCTGTATCTCGAGGACATCACCT
 TTCACCTTTACCTGGTCCCCAATGACTGCACTATTCGGAAGGCCATTGATGAGGAAGAAGTGAAGTTTCA
 GTTTGTGCGCATAAACAAGCCACCCAGTAGATGCTCTTTATGTTGGTTCCCGCTATATCGTGTCCAGC
 TCCAAAGAGGTGGAATTTCTCCCAAGGAAGTGGAGCTGTGTACCGAAGCCCTCGGGAATCCAGCTCT
 TCTCTGAGATATATGTTGGAAACATTGGTTCAGGGATTAATCTGCAACTAACAGACAAGAAGTATATGAA
 TCTCATATGGGAGGCCTTGTGAAACAGGGGACCTCAGACCTGCACTGCCAGGATGGCTTCAGCCCCC
 AAAGATGCTCCTGCCCTGCTACACTTCGTGGACCAGCATCGGGAGCAGCTGGTGGCCGAGTGACATCAG
 TGGACCCTCTCTGGACAAGCTGCATGGTCTGGTGTGAGTGAAGAAGATTATGAGACAGTGAGGGCTGA
 GGCCACAAACCAAGACAAGATGAGGAAGCTCTCAGGGGCAGCCGGTCTGGAGCTGGGATTGCAAAGAC
 CATTTCTACCAAGCTCTGAAGGAGACCCATCTCACCTGATCATGGACCTCCTTGAGAAGTCGGGAGGGG
 TCTCTGTTAGACTCTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:

Sgfl-MluI

ACCN:

NM_001145755

Insert Size:

3657 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_001145755.2, NP_001139227.2

RefSeq Size: 7024 bp

RefSeq ORF: 3657 bp

Locus ID: 360557

UniProt ID: D9I2F9

Cytogenetics: 10q24

Gene Summary: Acts as the sensor component of the Nlrp1a inflammasome, which mediates inflammasome activation in response to various pathogen-associated signals, leading to subsequent pyroptosis (By similarity). Inflammasomes are supramolecular complexes that assemble in the cytosol in response to pathogens and other damage-associated signals and play critical roles in innate immunity and inflammation (By similarity). Acts as a recognition receptor (PRR): recognizes specific pathogens and other damage-associated signals, such as B.anthraxis lethal toxin (LT) or Val-boroPro inhibitor, and mediates the formation of the inflammasome polymeric complex (PubMed:20502689, PubMed:31383852). In response to pathogen-associated signals, the N-terminal part of Nlrp1a is degraded by the proteasome, releasing the cleaved C-terminal part of the protein (NACHT, LRR and PYD domains-containing protein 1a, C-terminus), which polymerizes to initiate the formation of the inflammasome complex: the inflammasome directly recruits pro-caspase-1 (proCASP1) independently of PYCARD/ASC and promotes caspase-1 (CASP1) activation, which subsequently cleaves and activates inflammatory cytokines IL1B and IL18 and gasdermin-D (GSDMD), leading to pyroptosis (By similarity).[UniProtKB/Swiss-Prot Function]