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# Product datasheet for RR201861

## Nlrp1a (NM_001145755) Rat Tagged ORF Clone

### Product data:

**Product Type:** Expression Plasmids

**Tag:** Myc-DDK

**Symbol:** Nlrp1a

**Synonyms:** Nalp1; Nlrp1

**Mammalian Cell Selection:** Neomycin

**Vector:** pCMV6-Entry (PS100001)

**E. coli Selection:** Kanamycin (25 ug/mL)

**ORF Nucleotide Sequence:**

>RR201861 representing NM_001145755
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
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**Protein Sequence:**

>RR201861 representing NM_001145755
Red=Cloning site Green=Tags(s)

MEESQSKQESNTRGRKGKITLSTRVAQHGSQQDVDPTFQTKRALERERSSPQVEQSFLGQLQSLLGWSST
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ESQLYRDRFQHVFFFSCRELAQCKQLSLAELIAQGQEVLTAPTRQILFRPEKLLFILDGIDEPAWVLEDQ
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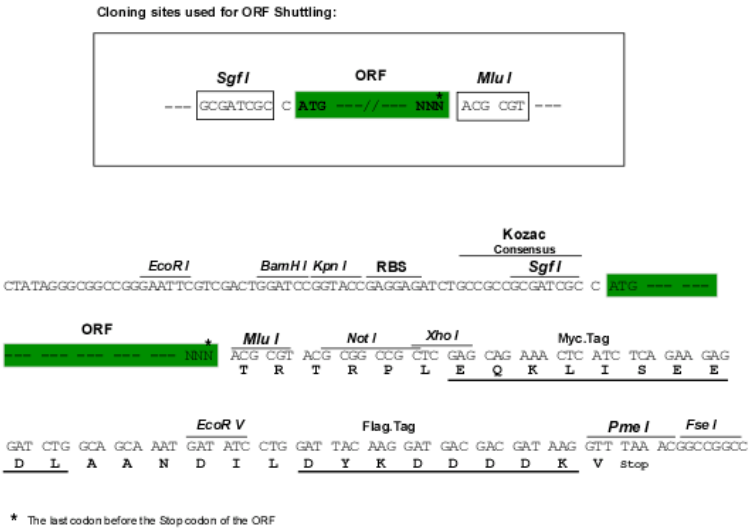
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** https://cdn.origene.com/chromatograms/ja1726_e03.zip

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



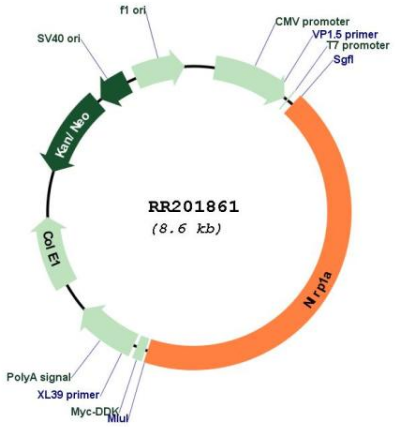

**ACCN:** NM_001145755

**ORF Size:** 3734 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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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. |
| **Note:** | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required. |
| **RefSeq Size:** | 7024 bp |
| **RefSeq ORF:** | 3657 bp |
| **Locus ID:** | 360557 |
| **UniProt ID:** | D9I2F9 |
| **Cytogenetics:** | 10q24 |
| **MW:** | 139.7 kDa |

**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.anthracis 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]

## Product images:




Circular map for RR201861