

## Product datasheet for **RG226287**

### **NLRP3 (NM\_001127462) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	NLRP3 (NM_001127462) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	NLRP3
Synonyms:	AGTAVPRL; AII; AVP; C1orf7; CIAS1; CLR1.1; DFNA34; FCAS; FCAS1; FCU; KEFH; MWS; NALP3; PYPAF1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG226287 representing NM\_001127462  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAAGATGGCAAGCACCCGCTGCAAGCTGGCCAGGTACCTGGAGACCTGGAGGATGTGGACTTGAAGA  
 AATTTAAGATGCACTTAGAGGACTATCCTCCCCAGAAGGGCTGCATCCCCCTCCCGAGGGGTGAGACAGA  
 GAAGGCAGACCATGTGGATCTAGCCACGCTAATGATCGACTTCAATGGGAGGAGAGAGCGTGGCCATG  
 GCCGTGTGGATCTTCGCTGCGATCAACAGGAGAGACCTTTATGAGAAAGCAAAAAGAGATGAGCCGAAGT  
 GGGGTTGAGATAATGCACGTGTTTGAATCCCCTGTGATATGCCAGGAAGACAGCATTGAAGAGGAGTG  
 GATGGGTTTACTGGAGTACCTTTGAGAATCTCTATTTGTAATAAAGAAAGATTACCGTAAGAAGTAC  
 AGAAAGTACGTGAGAAGCAGATTCCAGTGCATTGAAGACAGGAATGCCCGTCTGGGTGAGAGTGTGAGCC  
 TCAACAAACGCTACACACGACTGCGTCTCATCAAGGAGCACCGGAGCCAGCAGGAGAGGGAGCAGGAGCT  
 TCTGGCCATCGGCAAGACCAAGAGCTGTGAGAGCCCCGTGAGTCCCATTAAGATGGAGTTGCTGTTTGC  
 CCCGATGATGAGCATTCTGAGCCTGTGCACACCGTGGTGTCCAGGGGGCGGCAGGGATTGGGAAAAACA  
 TCTGGCCAGGAAGATGATGTTGGACTGGGCGTCGGGGACACTCTACCAAGACAGGTTTACTATCTGTT  
 CTATATCCACTGTCCGGAGGTGAGCCTTGTGACACAGAGGAGCCTGGGGACCTGATCATGAGCTGCTGC  
 CCCGACCCAAACCCATCCACAAGATCGTGAGAAAACCTCCAGAATCCTCTTCCATGGACGGCT  
 TCGATGAGCTGCAAGGTGCCTTTGACGAGCACATAGGACCGCTCTGCACTGACTGGCAGAAGGCCGAGCG  
 GGGAGACATTCTCTGAGCAGCCTCATCAGAAAGAAGCTGCTTCCGAGGCCTCTCTGCTCATCACCAGC  
 AGACCTGTGGCCCTGGAGAACTGCAGCAGCTTGTGGACCATCTCGGCATGTGGAGATCCTGGGTTTCT  
 CCGAGGCCAAAAGGAAAGAGTACTTCTCAAGTACTTCTGATGAGGCCCAAGCCAGGGCAGCCTTCAG  
 TCTGATTCAGGAGAACGAGGTCTCTTCCCATGTGCTTCCATCCCCCTGGTCTGCTGGATCGTGTGCACT  
 GGACTGAAAACAGCAGATGGAGAGTGGAAGAGCCTTGCCAGACATCCAAGACCACCACCGCGTGTACG  
 TCTTCTTCTTCCAGTTTGTGCGACGCCCGGGGAGGGAGCCAGGAGCACGGCCTCTGCGCCACCTCTG  
 GGGGCTGCTCTTTGGCTGCAGATGGAATCTGGAACAGAAAATCCTGTTTGGAGAGTCCGACCTCAGG  
 AATCATGGACTGCAGAAGGCGGATGTGTCTGCTTCTGAGGATGAACCTGTTCCAAAAGGAAGTGGACT  
 GCGAGAAGTTCTACAGCTTCCATCCATGACTTCCAGGAGTCTTGGCCCATGTACTACCTGCTGGA  
 AGAGGAAAAGGAAGGACGAAAGCTTCCAGGAGTCTGTTGAGCTTCCAGCCGAGAGCTGACAGTC  
 CTTCTGAAAACATATGGCAAATTCGAAAAGGGTATTTGATTTTTGTTGTACGTTTCTCTTTGGCCTGG  
 TAAACCAGGAGAGGACCTCCTACTTGGAGAAGAAATTAAGTTGCAAGATCTCTCAGCAAATCAGGCTGGA  
 GCTGCTGAAATGGATTGAAGTGAAGCCAAAGCTAAAAAGCTGCAGATCCAGCCAGCCAGCTGGAATTG  
 TTCTACTGTTTGTACGAGATGCAGGAGGAGGACTTCGTGCAAAGGGCCATGGACTATTTCCCAAGATTG  
 AGATCAATCTCTCCACGAAATGGACCACATGGTTTCTCCTTTTGCATTGAGAACTGTCATCGGGTGG  
 GTCAGTGTCCCTGGGTTTCTCCATAACATGCCAAGGAGGAAGAGGAGGAGGAAAAGGAAGGCCGACAC  
 CTTGATATGGTGCAGTGTGCTCCCAAGCTCCTCTCATGCTGCCTGTTCTCATGGGTGGGGCGCTGTG  
 GCCTCTCGCATGAGTGTGCTTTCGACATCTCCTGGTCTCAGCAGCAACCAGAAGCTGGTGGAGCTGGA  
 CCTGAGTGACAACGCCCTCGGTGACTTCGGAATCAGACTTCTGTGTGGGACTGAAGCACCTGTTGTGC  
 AATCTGAAGAAGCTCTGTTGGTTCAGTCTGCTGCATCAGCATGTTGTGAGGATCTTGATCATGAT  
 TGAGCACCCAGCCATTCCCTGACCAGACTCTATGTGGGGGAGAATGCCCTGGGAGACTCAGGAGTCGCAAT  
 TTTATGTGAAAAAGCCAAGAATCCACAGTGAACCTGCAGAAACTGGGTTGGTGAATTCTGGCCTTACG  
 TCAGTCTGTTGTTGAGCTTTGCTCCTCGGTACTCAGCACTAATCAGAATCTCACGCACCTTACCTGCGAG  
 GCAACACTCTCGGAGACAAGGGGATCAAACACTCTGTGAGGGACTTTGCACCCCGACTGCAAGCTTCA  
 GGTGTTGGAATTAGACAACCTGCAACCTCACGTACACTGCTGCTGGGATCTTCCACACTCTGACCTCC  
 AGCCAGAGCCTGCGAAAGCTGAGCCTGGCAACAATGACCTGGGCGACCTGGGGTTCATGATGTTCTGTG  
 AAGTGTGAAACAGCAGAGCTGCCTCCTGCAGAACCTGGGGTGTCTGAAATGTATTTCAATTATGAGAC  
 AAAAAGTGCCTTAGAAACACTTCAAGAAGAAAAGCCTGAGCTGACCGTCTCTTTGAGCCTTCTTGG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG226287 representing NM\_001127462  
 Red=Cloning site Green=Tags(s)

MKMASTRCKLARYLEDLEDVDLKKFKMHLEDYPPQKGC IPLPRGQTEKADHVDLATLMIDFN GEEKAWAM  
 AVWIFAAINRRDLYEKAKRDEPKWGS DNARVSNPTVICQEDSIEEEWMGLLEYL SRISICKMKDYRKKY  
 RKYVRSRFQCIEDRNARLGESVSLNKRYTRLRLIKEHRSQQEREQELLAIGKTKTCESPVSP IKMELLFD  
 PDDEHSEPVHTVVVFQGAAGIGKTI LARKMMLDWASGTL YQDRFDYLFYIHCREVSLVTQRSLGDLIMSCC  
 PDPNPP IHKIVRKP SRILFLMDGFDELQGA FDEHIGPLCTDWQKAERGDILLSSLIRKKLLPEASLLITT  
 RPVALEKLQHLLDHPRHVEILGFSEAKRKEYFFKYFSDEAQAARAAFSLIQENEVLFTMCFIPLVCVI VCT  
 GLKQQMESGKSLAQTSKTTTAVYVFFLSLLQPRGGSQEHLCAHLWGLCSLAADGIWNQKILFEESDLR  
 NHGLQKADVSAFLRMNLFQKEVDCEKFYSFIHMTFQEFAAMYLL EEEKEGR TNVPGSRLKLP SRDVTV  
 LLENYKGFKEGYLIFVVRFLFGLVNQERTSYLEKKLSCKISQQIRLELLKWI EVKAKAKKLQIQPSQLEL  
 FYCLYEMQEEDFVQRAMYDFPKIEINLSTRMDHMVSSFCIENCHRVESLSLGF LHNMPKEEEEEKEGRH  
 LDMVQCVL PSSSHAACSHGLGRCGLSHECCFDISLVLSSNQKLV ELDLSDNALGDFGIRLLCVGLKHL LCC  
 NLKKLWLVSCCLTSACQDLASVLSHSLTRLVYGENALGDSGVA ILC EKAKNPQC NLQKLG LVNSGLT  
 SVCCSALSSVLSTNQNLTHLYLRGNTLGDKGIKLLCEGLLHPDCKLQVLELDN CNLTS HCCWDLSTLLTS  
 SQSLRKL SLGNNDL GDLGVMMFCEVLKQQSCLLQNLGLSEMYFN YETKSALET LQEEKPELTVVFEPSW

TRTRPLE - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



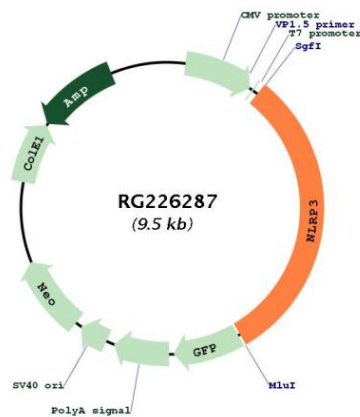
**ACCN:** NM\_001127462

**ORF Size:** 2937 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<u><a href="#">NM_001127462.2</a></u> , <u><a href="#">NP_001120934.1</a></u>
<b>RefSeq Size:</b>	4299 bp
<b>RefSeq ORF:</b>	2934 bp
<b>Locus ID:</b>	114548
<b>UniProt ID:</b>	<u><a href="#">Q96P20</a></u>
<b>Cytogenetics:</b>	1q44
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	NOD-like receptor signaling pathway

**Gene Summary:**

This gene encodes a pyrin-like protein containing a pyrin domain, a nucleotide-binding site (NBS) domain, and a leucine-rich repeat (LRR) motif. This protein interacts with the apoptosis-associated speck-like protein PYCARD/ASC, which contains a caspase recruitment domain, and is a member of the NLRP3 inflammasome complex. This complex functions as an upstream activator of NF-kappaB signaling, and it plays a role in the regulation of inflammation, the immune response, and apoptosis. The SARS-CoV 3a protein, a transmembrane pore-forming viroporin, has been shown to activate the NLRP3 inflammasome via the formation of ion channels in macrophages. Mutations in this gene are associated with familial cold autoinflammatory syndrome (FCAS), Muckle-Wells syndrome (MWS), chronic infantile neurological cutaneous and articular (CINCA) syndrome, neonatal-onset multisystem inflammatory disease (NOMID), keratoendotheliitis fugax hereditaria, and deafness, autosomal dominant 34, with or without inflammation. Multiple alternatively spliced transcript variants encoding distinct isoforms have been identified for this gene. Alternative 5' UTR structures are suggested by available data; however, insufficient evidence is available to determine if all of the represented 5' UTR splice patterns are biologically valid. [provided by RefSeq, Aug 2020]

**Product images:**

Circular map for RG226287