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Product datasheet for MG227218

Nlrp3 (NM_145827) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Nlrp3 (NM_145827) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Nlrp3
Synonyms:	AGTAVPRL; AII/AVP; Cias1; FCAS; FCU; Mmig1; MWS; NALP3; Pypaf1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>MG227218 representing NM_145827
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGACGAGTGTCCGTTGCAAGCTGGCTCAGTATCTAGAGGACCTTGAAGATGTGGACCTCAAGAAATTCA
AAATGCATTTGGAAGATTACCCGCCCGAGAAAGGCTGTATCCCAGTCCCCAGGGGCCAGATGGAGAAGGC
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AGAAGCAGGTTCTACTCTATCAAGGACAGGAACGCGCGTCTAGGTGAGAGTGTGGACCTCAACAGTCGCT
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CAGAAGACTGACGTCTCCGCTTTCCTGAGGATGAACGTGTTCCAGAAGGAAGTGGACTGCGAGAGATTCT
ACAGCTTCAGCCACATGACTTTCCAGGAGTTCTTCGCTGCTATGTACTATTTGCTGGAAGAGGAGGCAGA
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AAATGTACTTAAATCGTGAAACAAAACGTGCCTTAGAAGCGCTCCAGGAAGAAAAGCCTGAGCTGACTAT
AGTCTTCGAGATTTCCTGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG227218 representing NM_145827
Red=Cloning site Green=Tags(s)

MTSVRCKLAQYLEDLEDVDLKKFKMHLEDYPPEKGCIPVPRGQMEKADHLDLATLMIDFNGEEKAWAMAV
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PPVCKILRKPSRILFLMDGFDELQGAFDEHIGEVCTDWQKAVRGDILLSSLIRKKLLPKASLLITTRPVA
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CQDLALVLSSNHSLTRLYIGENALGDSGVQVLCEKMKDPQCNLQKLGLVNSGLTSICCSALTSVLKTNQN
FTHLYLRSNALGDTGLRLLCEGLLHPDCKLQMLELDNCSLTSHSCWNLSTILTHNHSLRKLNLGNNDLGD
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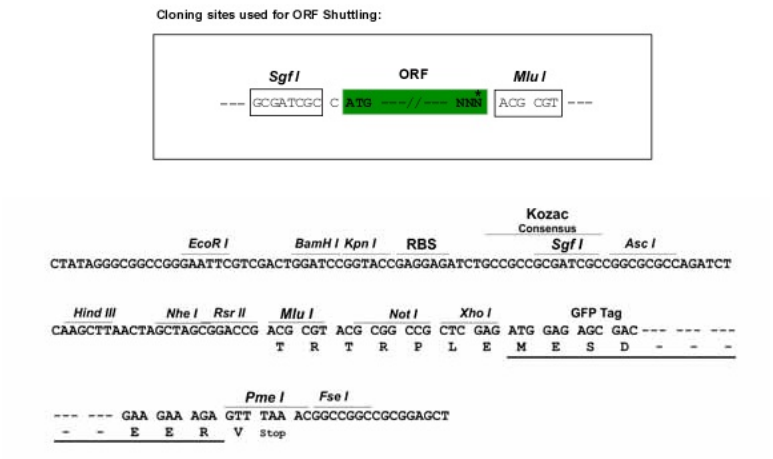
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN:	NM_145827
ORF Size:	3099 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_145827.3, NP_665826.1
RefSeq Size:	4021 bp
RefSeq ORF:	3102 bp

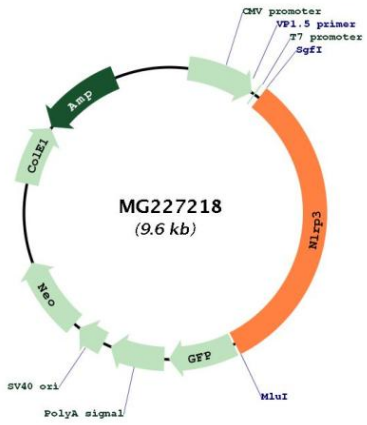
Locus ID: 216799

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]

Product images:



Circular map for MG227218