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Product datasheet for TL510752

Nlrp3 Mouse shRNA Plasmid (Locus ID 216799)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Nlrp3 Mouse shRNA Plasmid (Locus ID 216799)
Locus ID:	216799
Synonyms:	AGTAVPRL; AII/AVP; Cias1; FCAS; FCU; Mmig1; MWS; NALP3; Pypaf1
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	Nlrp3 - Mouse, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 216799). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	BC116174, BC116175, NM_145827, NM_001359638, NR_153314, NM_145827.1, NM_145827.2, NM_145827.3
UniProt ID:	Q8R4B8

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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]

shRNA Design:

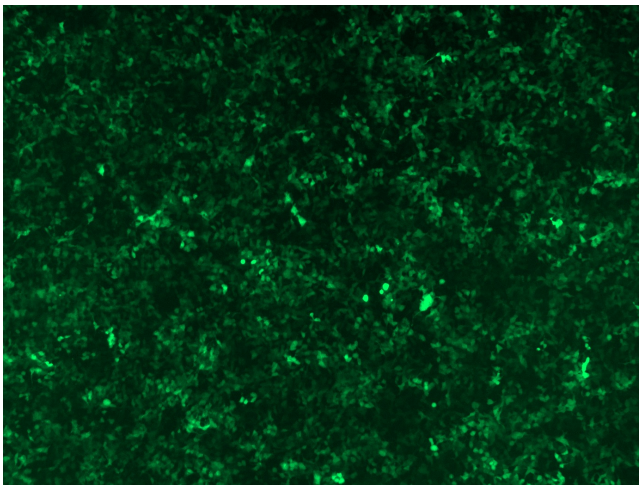
These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

Performance Guaranteed:

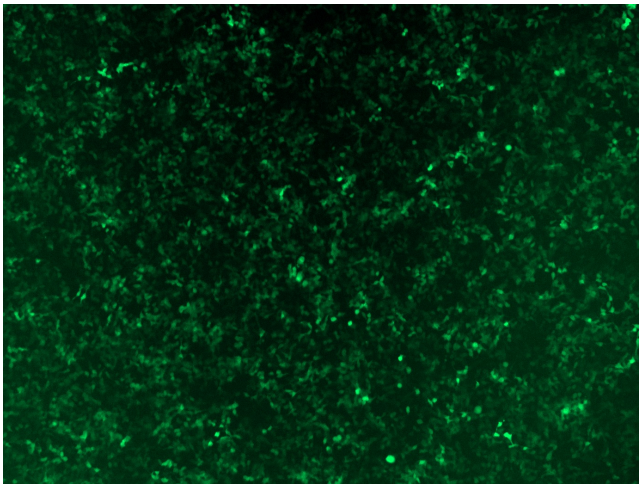
OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).

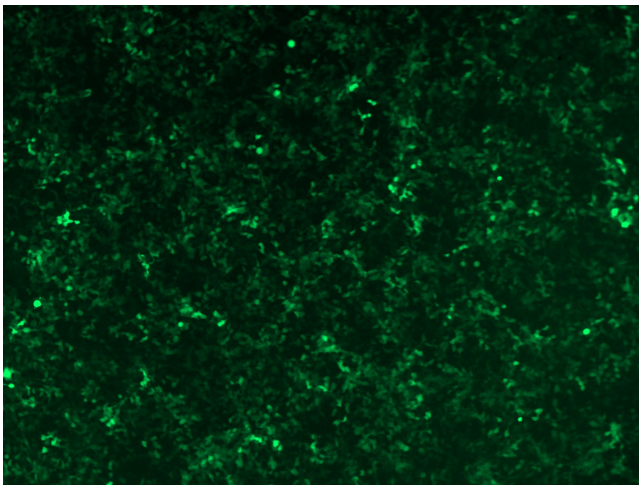
Product images:



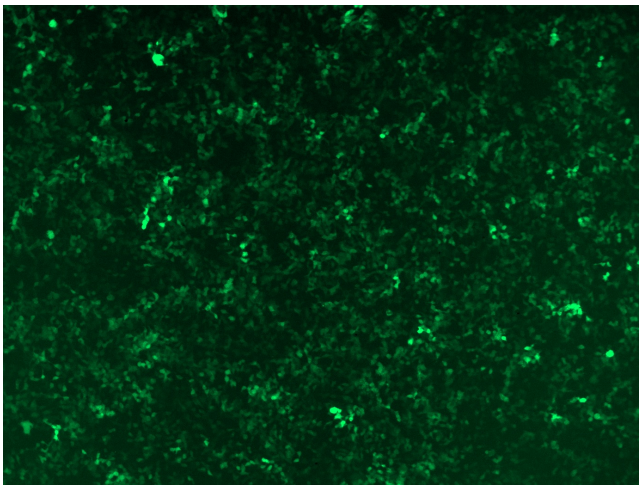
GFP signal was observed under microscope at 48 hours after transduction of TL510752A virus into HEK293 cells. TL510752A virus was prepared using lenti-shRNA TL510752A and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of TL510752B virus into HEK293 cells. TL510752B virus was prepared using lenti-shRNA TL510752B and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of [TL510752C] virus into HEK293 cells. [TL510752C] virus was prepared using lenti-shRNA [TL510752C] and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of [TL510752D] virus into HEK293 cells. [TL510752D] virus was prepared using lenti-shRNA [TL510752D] and [TR30037] packaging kit.