Datasheet for ABIN7554745

NLRP3 Protein (AA 1-1036) (His tag)

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Overview

Quantity:	1 mg
Target:	NLRP3
Protein Characteristics:	AA 1-1036
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This NLRP3 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat NLRP3 Protein expressed in mammalien cells.
Sequence:	MKMASTRCKL ARYLEDLEDV DLKKFKMHLE DYPPQKGCIP LPRGQTEKAD HVDLATLMID FNGEEKAWAM AVWIFAAINR RDLYEKAKRD EPKWGSDNAR VSNPTVICQE DSIEEEWMGL LEYLSRISIC KMKKDYRKKY RKYVRSRFQC IEDRNARLGE SVSLNKRYTR LRLIKEHRSQ QEREQELLAI GKTKTCESPV SPIKMELLFD PDDEHSEPVH TVVFQGAAGI GKTILARKMM LDWASGTLYQ DRFDYLFYIH CREVSLVTQR SLGDLIMSCC PDPNPPIHKI VRKPSRILFL MDGFDELQGA FDEHIGPLCT DWQKAERGDI LLSSLIRKKL LPEASLLITT RPVALEKLQH LLDHPRHVEI LGFSEAKRKE YFFKYFSDEA QARAAFSLIQ ENEVLFTMCF IPLVCWIVCT GLKQQMESGK SLAQTSKTTT AVYVFFLSSL LQPRGGSQEH GLCAHLWGLC SLAADGIWNQ KILFEESDLR NHGLQKADVS AFLRMNLFQK EVDCEKFYSF IHMTFQEFFA AMYYLLEEEK EGRTNVPGSR LKLPSRDVTV LLENYGKFEK GYLIFVVRFL FGLVNQERTS YLEKKLSCKI SQQIRLELLK WIEVKAKAKK LQIQPSQLEL FYCLYEMQEE DFVQRAMDYF PKIEINLSTR

Product Details

	MDHMVSSFCI ENCHRVESLS LGFLHNMPKE EEEEEKEGRH LDMVQCVLPS SSHAACSHGL VNSHLTSSFC RGLFSVLSTS QSLTELDLSD NSLGDPGMRV LCETLQHPGC NIRRLWLGRC GLSHECCFDI SLVLSSNQKL VELDLSDNAL GDFGIRLLCV GLKHLLCNLK KLWLVSCCLT SACCQDLASV LSTSHSLTRL YVGENALGDS GVAILCEKAK NPQCNLQKLG LVNSGLTSVC CSALSSVLST NQNLTHLYLR GNTLGDKGIK LLCEGLLHPD CKLQVLELDN CNLTSHCCWD LSTLLTSSQS LRKLSLGNND LGDLGVMMFC EVLKQQSCLL QNLGLSEMYF NYETKSALET LQEEKPELTV VFEPSW **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	NLRP3
Alternative Name:	NLRP3 (NLRP3 Products)
Background:	NACHT, LRR and PYD domains-containing protein 3 (EC 3.6.4.-) (Angiotensin/vasopressin receptor AII/AVP-like) (Caterpiller protein 1.1) (CLR1.1) (Cold-induced autoinflammatory syndrome 1 protein) (Cryopyrin) (PYRIN-containing APAF1-like protein 1),FUNCTION: Sensor component of the NLRP3 inflammasome, which mediates inflammasome activation in

response to defects in membrane integrity, leading to secretion of inflammatory cytokines IL1B and IL18 and pyroptosis (PubMed:16407889, PubMed:18604214, PubMed:18403674, PubMed:23582325, PubMed:28847925, PubMed:33231615, PubMed:34133077, PubMed:34341353, PubMed:27929086, PubMed:28656979, PubMed:25686105, PubMed:30487600, PubMed:30612879, PubMed:31086327, PubMed:31086329, PubMed:31189953, PubMed:34512673, PubMed:36442502). In response to pathogens and other damage-associated signals that affect the integrity of membranes, initiates the formation of the inflammasome polymeric complex composed of NLRP3, CASP1 and PYCARD/ASC (PubMed:16407889, PubMed:18403674, PubMed:28847925, PubMed:33231615, PubMed:34133077, PubMed:34341353, PubMed:27432880, PubMed:31189953, PubMed:36142182, PubMed:36442502). Recruitment of pro-caspase-1 (proCASP1) to the NLRP3 inflammasome promotes caspase-1 (CASP1) activation, which subsequently cleaves and activates inflammatory cytokines IL1B and IL18 and gasdermin-D (GSDMD), promoting cytokine secretion and pyroptosis (PubMed:23582325, PubMed:28847925, PubMed:33231615, PubMed:34133077, PubMed:34341353, PubMed:31189953). Activation of NLRP3 inflammasome is also required for HMGB1 secretion, stimulating inflammatory responses (PubMed:22801494). Under resting conditions, ADP-bound NLRP3 is autoinhibited (PubMed:35114687). NLRP3 activation stimuli include extracellular ATP, nigericin, reactive oxygen species, crystals of monosodium urate or cholesterol, amyloid-beta fibers, environmental or industrial particles and nanoparticles, such as asbestos, silica, aluminum salts, cytosolic dsRNA, etc (PubMed:16407889, PubMed:18604214, PubMed:18403674, PubMed:19414800, PubMed:23871209). Almost all stimuli trigger intracellular K(+) efflux (By similarity). These stimuli lead to membrane perturbation and activation of NLRP3 (By similarity). Upon activation, NLRP3 is transported to microtubule organizing center (MTOC), where it is unlocked by NEK7, leading to its relocalization to dispersed trans-Golgi network (dTGN) vesicle membranes and formation of an active inflammasome complex (PubMed:36442502). Associates with dTGN vesicle membranes by binding to phosphatidylinositol 4-phosphate (PtdIns4P) (PubMed:30487600, PubMed:34554188). Shows ATPase activity (PubMed:17483456). {ECO:0000250|UniProtKB:Q8R4B8, ECO:0000269|PubMed:16407889, ECO:0000269|PubMed:17483456, ECO:0000269|PubMed:18403674, ECO:0000269|PubMed:18604214, ECO:0000269|PubMed:19414800, ECO:0000269|PubMed:22801494, ECO:0000269|PubMed:23582325, ECO:0000269|PubMed:23871209, ECO:0000269|PubMed:25686105, ECO:0000269|PubMed:27432880, ECO:0000269|PubMed:27929086, ECO:0000269|PubMed:28656979, ECO:0000269|PubMed:28847925, ECO:0000269|PubMed:30487600,

Target Details

	ECO:0000269|PubMed:30612879, ECO:0000269|PubMed:31086327, ECO:0000269|PubMed:31086329, ECO:0000269|PubMed:31189953, ECO:0000269|PubMed:33231615, ECO:0000269|PubMed:34133077, ECO:0000269|PubMed:34341353, ECO:0000269|PubMed:34554188, ECO:0000269|PubMed:35114687, ECO:0000269|PubMed:36142182, ECO:0000269|PubMed:36442502}., FUNCTION: 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 (By similarity). During Th2 differentiation, required for optimal IRF4 binding to IL4 promoter and for IRF4-dependent IL4 transcription (By similarity). Binds to the consensus DNA sequence 5'-GRRGGNRGAG-3' (By similarity). May also participate in the transcription of IL5, IL13, GATA3, CCR3, CCR4 and MAF (By similarity). {ECO:0000250|UniProtKB:Q8R4B8}.
Molecular Weight:	118.2 kDa
UniProt:	Q96P20
Pathways:	Cellular Response to Molecule of Bacterial Origin, Positive Regulation of Endopeptidase Activity, Inflammasome

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months