Datasheet for ABIN7563652

NLR Family, Pyrin Domain Containing 1B (NLRP1B) (AA 1-1233) protein (His tag)

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Overview

Quantity:	1 mg
Target:	NLR Family, Pyrin Domain Containing 1B (NLRP1B)
Protein Characteristics:	AA 1-1233
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	His tag
Application:	SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Purpose:	Custom-made recombinat Nlrp1b Protein expressed in mammalien cells.
Sequence:	MEESPPKQKS NTKVAQHEGQ QDLNTTRHMN VELKHRPKLE RHLKLGMIPV VYMKQGEEIL YPAQSLREEN LIQNFTSLLL LQKLCPKDPE NMIRKSWASC VPEEGGHMIN IQDLFGPNIG TQKEPQLVII EGAAGIGKST LARLVKRAWK EGQLYRDHFQ HVFFFSCREL AQCKKLSLAE LIAQGQEVPT APINQILSHP EKLLFILDGI DEPAWVLADQ NPELCLHWSQ RQPVHTLLGS LLGKSILPEA FFLLTTRTTA LQKFIPSLPM PCQVEVLGFS GIERENYFYK YFANQRHAIT AFMMVESNPV LLTLCEVPWV CWLVCTCLKK QMEQGRVLSL KSQTTTALCL KYLSLTIPDK HRRTQVKALC SLAAEGIWKR RTLFSESDLC KQGLDEDAVA TFLKTGVLQK QASSLSYSFA HLCLQEFFAA ISCILEDSEE RHGNMEMDRI VETLVERYGR QNLFEAPTVR FLFGLLGKEG VKGMEKLFSC SLHGKTNLKL LWHILVKSQP HQPPCLGLLH CLYENQDMEL LTHVMHDLQG TIVPGPNDTA HTVLQTNVKH LVVQTDMELM VATFCIQFYC HVRTLQLNME KQQGYALISP RMVLYRWTPI TNASWEILFY NLKFTRNLEG LDLSGNSLRY SVVQSLCNTL RYPGCQLKTL

Product Details

	WLVKCGLTSR YCSLLASVLS AHSSLTELYL QLNDLGDDGV RMLCEGLRNP VCNLSILWLD LSSLSAQVIT ELRTLEEKNP KLYIRSIWMP HMMVPTENMD EEAILTTLKQ QRQESGDKPM EILGTEEDFW GPTGPVATEL VDRVRNLYRM PQMMVPTENM DEEDILTSFK QQRQQSGANP MEILGTEEDF WGPIGPVATE VVYRERNLYR VQLPMAGSYH CPSTRLHFVV TRAVTIEIEF CAWSQFLDKT PLQQSHMVVG PLFDIKAEQG AVTAVYLPHF VSLKDTKAST FDFKVAHFQE HGMVLETPDR VKPGYTVLKN PSFSPMGVVL RIIPAARHFI PITSITLIYY RVNQEEVTLH LYLVPNDCTI QKAIDDEEMK FQFVRINKPP PVDNLFIGSR YIVSGSENLE ITPKELELCY RSSKEFQLFS EIYVGNMGSE IKLQIKNKKH MKLIWEALLK PGDLRPALPR IAQALKDAPS LLHFMDQHRE QLVARVTSVD PLLDKLHGLV LNEESYEAVR AENTNQDKMR KLFNLSRSWS RACKDLFYQA LKETHPHLVM DLLEKSGGVS LGS **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:	NLR Family, Pyrin Domain Containing 1B (NLRP1B)
Alternative Name:	Nlrp1b (NLRP1B Products)

Target Details

Background:	NACHT, LRR and PYD domains-containing protein 1b allele 1 (EC 3.4.-.-) [Cleaved into: NACHT, LRR and PYD domains-containing protein 1b, C-terminus (Nlrp1b1-CT), NACHT, LRR and PYD domains-containing protein 1b, N-terminus (Nlrp1b1-NT)],FUNCTION: Acts as the sensor component of the Nlrp1b inflammasome, which mediates inflammasome activation in response to various pathogen-associated signals, leading to subsequent pyroptosis (PubMed:19651869, PubMed:21170303, PubMed:22536155, PubMed:22753929, PubMed:23818853). 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 (PubMed:19651869, PubMed:21170303, PubMed:22536155, PubMed:22753929, PubMed:23818853, PubMed:31268597, PubMed:30872533, PubMed:30872531). 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:31268597, PubMed:30872533, PubMed:30872531). In response to pathogen-associated signals, the N-terminal part of Nlrp1b is degraded by the proteasome, releasing the cleaved C-terminal part of the protein (NACHT, LRR and PYD domains-containing protein 1b, 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 (PubMed:16429160, PubMed:19949100, PubMed:22753929, PubMed:23818853, PubMed:31268597, PubMed:30872533, PubMed:30872531). In the absence of GSDMD expression, the Nlrp1b inflammasome is able to recruit and activate CASP8, leading to activation of gasdermin-E (GSDME) (By similarity). Activation of Nlrp1b inflammasome is also required for HMGB1 secretion, the active cytokines and HMGB1 stimulate inflammatory responses (PubMed:22801494). Primary mediator of macrophage susceptibility to B.anthracis LT: in response to B.anthracis infection, macrophages and dendritic cells release IL1B and undergo pyroptosis (PubMed:16429160, PubMed:19949100, PubMed:22753929, PubMed:23818853). This early inflammatory response to the toxin increases resistance to infection by B.anthracis spores (PubMed:16429160, PubMed:19949100, PubMed:22753929, PubMed:23818853). {ECO:0000250|UniProtKB:Q9C000, ECO:0000269|PubMed:16429160, ECO:0000269|PubMed:19651869, ECO:0000269|PubMed:19949100, ECO:0000269|PubMed:21170303, ECO:0000269|PubMed:22536155, ECO:0000269|PubMed:22753929, ECO:0000269|PubMed:22801494, ECO:0000269|PubMed:23818853, ECO:0000269|PubMed:30872531, ECO:0000269|PubMed:30872533, ECO:0000269|PubMed:31268597}., FUNCTION: [NACHT, LRR and PYD domains-containing

Target Details

	protein 1b allele 1]: Constitutes the precursor of the Nlrp1b inflammasome, which mediates autoproteolytic processing within the FIIND domain to generate the N-terminal and C-terminal parts, which are associated non-covalently in absence of pathogens and other damage-associated signals. {ECO:0000305|PubMed:23818853}., FUNCTION: [NACHT, LRR and PYD domains-containing protein 1b, N-terminus]: Regulatory part that prevents formation of the Nlrp1b inflammasome: in absence of pathogens and other damage-associated signals, interacts with the C-terminal part of Nlrp1b (NACHT, LRR and PYD domains-containing protein 1b, C-terminus), preventing activation of the Nlrp1b inflammasome (PubMed:30872533, PubMed:30872531). In response to pathogen-associated signals, this part is ubiquitinated by the N-end rule pathway and degraded by the proteasome, releasing the cleaved C-terminal part of the protein, which polymerizes and forms the Nlrp1b inflammasome (PubMed:30872533, PubMed:30872531). {ECO:0000269|PubMed:30872531, ECO:0000269|PubMed:30872533}., FUNCTION: [NACHT, LRR and PYD domains-containing protein 1b, C-terminus]: Constitutes the active part of the Nlrp1b inflammasome (PubMed:30872533, PubMed:30872531). In absence of pathogens and other damage-associated signals, interacts with the N-terminal part of Nlrp1b (NACHT, LRR and PYD domains-containing protein 1b, N-terminus), preventing activation of the Nlrp1b inflammasome (PubMed:30872533, PubMed:30872531). In response to pathogen-associated signals, the N-terminal part of Nlrp1b is degraded by the proteasome, releasing this form, which polymerizes to form the Nlrp1b inflammasome complex: the Nlrp1b inflammasome complex then directly recruits pro-caspase-1 (proCASP1) and promotes caspase-1 (CASP1) activation, leading to gasdermin-D (GSDMD) cleavage and subsequent pyroptosis (PubMed:31268597, PubMed:30872533, PubMed:30872531). {ECO:0000269|PubMed:30872531, ECO:0000269|PubMed:30872533, ECO:0000269|PubMed:31268597}.
Molecular Weight:	140.7 kDa
UniProt:	Q2LKW6

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