Datasheet for ABIN3136668

NLRP3 Protein (AA 1-1033) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	NLRP3
Protein Characteristics:	AA 1-1033
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NLRP3 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Brand:	AliCE®
Sequence:	MTSVRCKLAQ YLEDLEDVDL KKFKMHLEDY PPEKGCIPVP RGQMEKADHL DLATLMIDFN GEEKAWAMAV WIFAAINRRD LWEKAKKDQP EWNDTCTSHS SMVCQEDSLE EEWMGLLGYL SRISICKKKK DYCKMYRRHV RSRFYSIKDR NARLGESVDL NSRYTQLQLV KEHPSKQERE HELLTIGRTK MRDSPMSSLK LELLFEPEDG HSEPVHTVVF QGAAGIGKTI LARKIMLDWA LGKLFKDKFD YLFFIHCREV SLRTPRSLAD LIVSCWPDPN PPVCKILRKP SRILFLMDGF DELQGAFDEH IGEVCTDWQK AVRGDILLSS LIRKKLLPKA SLLITTRPVA LEKLQHLLDH PRHVEILGFS EAKRKEYFFK YFSNELQARE AFRLIQENEV LFTMCFIPLV CWIVCTGLKQ QMETGKSLAQ TSKTTTAVYV FFLSSLLQSR GGIEEHLFSD YLQGLCSLAA DGIWNQKILF EECDLRKHGL QKTDVSAFLR MNVFQKEVDC ERFYSFSHMT FQEFFAAMYY LLEEEAEGET VRKGPGGCSD LLNRDVKVLL ENYGKFEKGY LIFVVRFLFG LVNQERTSYL EKKLSCKISQ QVRLELLKWI EVKAKAKKLQ WQPSQLELFY CLYEMQEEDF VQSAMDHFPK IEINLSTRMD

HVVSSFCIKN CHRVKTLSLG FFHNSPKEEE EERRGGRPLD QVQCVFPDTH VACSSRLVNC CLTSSFCRGL FSSLSTNRSL TELDLSDNTL GDPGMRVLCE ALQHPGCNIQ RLWLGRCGLS HQCCFDISSV LSSSQKLVEL DLSDNALGDF GIRLLCVGLK HLLCNLQKLW LVSCCLTSAC CQDLALVLSS NHSLTRLYIG ENALGDSGVQ VLCEKMKDPQ CNLQKLGLVN SGLTSICCSA LTSVLKTNQN FTHLYLRSNA LGDTGLRLLC EGLLHPDCKL QMLELDNCSL TSHSCWNLST ILTHNHSLRK LNLGNNDLGD LCVVTLCEVL KQQGCLLQSL QLGEMYLNRE TKRALEALQE EKPELTIVFE ISW

Sequence without tag. The proposed Strep-Tag is based on experience s 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 in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

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.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.

Product Details

	• The protein's absorbance will be measured against its specific reference buffer. • We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.
Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
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.-) (Cold autoinflammatory syndrome 1 protein homolog) (Cryopyrin) (Mast cell maturation-associated-inducible protein 1) (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:19362020, PubMed:23582325, PubMed:26814970, PubMed:27929086, PubMed:26642356, PubMed:27374331, PubMed:28847925, PubMed:28656979, PubMed:30518920, PubMed:36178239). 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:19362020, PubMed:16407889, PubMed:18403674, PubMed:26814970, PubMed:26642356, PubMed:27374331, PubMed:28847925). 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:16546100, PubMed:17008311, PubMed:26814970, PubMed:26642356, PubMed:27374331, PubMed:28847925). Activation of NLRP3 inflammasome is also required for HMGB1 secretion, stimulating inflammatory responses (PubMed:22801494). Under resting conditions, ADP-bound NLRP3 is autoinhibited (By similarity). 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:16407888, PubMed:16407890,

Target Details

	PubMed:16407889, PubMed:18403674, PubMed:19362020, PubMed:37001519). Almost all stimuli trigger intracellular K(+) efflux (PubMed:23809161). 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:26814970, PubMed:34615873, PubMed:34861190). Associates with dTGN vesicle membranes by binding to phosphatidylinositol 4-phosphate (PtdIns4P) (PubMed:30487600). Shows ATPase activity (PubMed:34861190). {ECO:0000250|UniProtKB:Q96P20, ECO:0000269|PubMed:16407888, ECO:0000269|PubMed:16407889, ECO:0000269|PubMed:16407890, ECO:0000269|PubMed:16546100, ECO:0000269|PubMed:17008311, ECO:0000269|PubMed:18403674, ECO:0000269|PubMed:19362020, ECO:0000269|PubMed:22801494, ECO:0000269|PubMed:23582325, ECO:0000269|PubMed:23809161, ECO:0000269|PubMed:26642356, ECO:0000269|PubMed:26814970, ECO:0000269|PubMed:27374331, ECO:0000269|PubMed:27929086, ECO:0000269|PubMed:28656979, ECO:0000269|PubMed:28847925, ECO:0000269|PubMed:30487600, ECO:0000269|PubMed:30518920, ECO:0000269|PubMed:34615873, ECO:0000269|PubMed:34861190, ECO:0000269|PubMed:37001519}., 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 (PubMed:26098997). During Th2 differentiation, required for optimal IRF4 binding to IL4 promoter and for IRF4-dependent IL4 transcription (PubMed:26098997). Binds to the consensus DNA sequence 5'-GRRGGNRGAG-3' (PubMed:26098997). May also participate in the transcription of IL5, IL13, GATA3, CCR3, CCR4 and MAF (PubMed:26098997). {ECO:0000269|PubMed:26098997}.
Molecular Weight:	118.3 kDa
UniProt:	Q8R4B8
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.

Application Details

Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months