

Datasheet for ABIN3094176

## NLRP6 Protein (AA 1-892) (Strep Tag)



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### Overview

Quantity:	250 µg
Target:	NLRP6
Protein Characteristics:	AA 1-892
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NLRP6 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

### Product Details

Brand:	AliCE®
Sequence:	<p>MDQPEAPCSS TGPRLAVARE LLLAALEELS QEQLKRFRHK LRDVGPDGRS IPWGRLERAD</p> <p>AVDLAEQLAQ FYGPEPALEV ARKTLKRADA RDVAAQLQER RLQRLGLGSG TLLSVSEYKK</p> <p>KYREHVLQLH ARVKERNARS VKITKRFTKL LIAPESAPE EAMGPAAEPE PGRARRSDTH</p> <p>TFNRLFRRDE EGRRLPTVVL QGPAGIGKTM AAKKILYDWA AGKLYQGQVD FAFFMPCGEL</p> <p>LERPGRSLA DLILDQCPDR GAPVPQMLAQ PQRLLFILDG ADELPA LGGP EAAPCTDPFE</p> <p>AASGARVLGG LLSKALLPTA LLLVTTRAAA PGRLQGRLCS PQCAEVRGFS DKDKKKYFYK</p> <p>YFRDERRAER AYRFVKENET LFALCFVPFV CWIVCTVLRQ QLELGRDLR TSKTTTSVYL</p> <p>LFITSVLSSA PVADGPRLQG DLRNLCRLAR EGVLGRR AQF AEKELEQLEL RGSKVQTLFL</p> <p>SKKELPGVLE TEVTYQFIDQ SFQEFLAALS YLLEDGGVPR TAAGGVGTLL RGDAQPHSHL</p> <p>VLTTTRFLFGL LSAERM RDIE RHFGCMV SER VKQEALRWVQ GQGQGC PGVA PEVTEGAKGL</p> <p>EDTEEP EEEEE EGEEP NYPLE LLYCLYETQE DAFVRQALCR FPELALQVRV FCRMDVAVLS</p>

YCVRCCPAGQ ALRLISCRLV AAQEKKKKSL GKRLQASLGG GSSSQGTTKQ LPASLLHPLF  
QAMTDPLCHL SSLTLSHCKL PDAVCRDLSE ALRAAPALTE LGLLHNRLSE AGLRMLSEGL  
AWPQCRVQTV RVQLPDPQRG LQYLVGMLRQ SPALTTLDLG GCQLPAPMVT YLCAVLQHGG  
CGLQTLAS VELSEQLQE LQAVKRAKPD LVITHPALDG HPQPPKELIS TF

**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.**

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### 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.
- 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.

## Product Details

Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
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Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
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Grade:	custom-made
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## Target Details

Target:	NLRP6
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Alternative Name:	NLRP6 ( <a href="#">NLRP6 Products</a> )
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Background:	<p>NACHT, LRR and PYD domains-containing protein 6 (Angiotensin II/vasopressin receptor) (PYRIN-containing APAF1-like protein 5),FUNCTION: Acts as the sensor component of the NLRP6 inflammasome, which mediates inflammasome activation in response to various pathogen-associated signals, leading to maturation and secretion of IL1B and IL18 (PubMed:30392956, PubMed:34678144). 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:30674671). Acts as a recognition receptor (PRR): recognizes and binds specific pathogens and other damage-associated signals, such as lipoteichoic acid (LTA), a cell-wall component of Gram-positive bacteria, or double stranded RNA (dsRNA) (PubMed:30392956, PubMed:34678144, PubMed:33377178). May also recognize and bind lipopolysaccharide (LPS), a major component of the outer membrane of Gram-negative bacteria, however, LPS is probably not a major activator of the NLRP6 inflammasome (PubMed:31932628, PubMed:34678144). Following LTA- or dsRNA-binding, NLRP6 undergoes liquid-liquid phase separation (LLPS), enhancing multivalent interactions, an essential step for the formation of the NLRP6 inflammasome polymeric complex (PubMed:34678144). The NLRP6 inflammasome acts by promoting recruitment of effector pro-inflammatory caspases (CASP1 and/or CASP4) that catalyze maturation and secretion of IL1B and IL18 in the extracellular milieu (PubMed:30674671, PubMed:12387869, PubMed:30392956, PubMed:34678144). The NLRP6 inflammasome plays a central role in the maintenance of epithelial integrity and host defense against microbial infections in the intestine (PubMed:30392956). Required to restrict infection against Gram-positive bacteria by recognizing lipoteichoic acid (LTA), leading to recruitment of CASP4 and CASP1, and subsequent maturation and secretion of IL1B and IL18 (PubMed:30392956, PubMed:33377178). Involved in intestinal antiviral innate immunity together with DHX15: recognizes and binds viral dsRNA to restrict infection by enteric viruses through the interferon pathway and GSDMD-dependent release of IL18 (PubMed:34678144, PubMed:34161762).</p>
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## Target Details

Required to prevent infection by the apicomplexan parasite *Cryptosporidium* in enterocytes by promoting GSDMD-dependent release of IL18 (By similarity). The NLRP6 inflammasome may also regulate the gut microbiota composition by acting as a sensor of microbiota-associated metabolites to form a PYCARD/ASC-dependent inflammasome for downstream IL18 release and secretion of antimicrobial peptides (By similarity). Essential for gut mucosal self-renewal and proliferation (By similarity). Regulate mucus secretion in an inflammasome- and autophagy-dependent manner to prevent invasion by enteric bacteria, (By similarity). During systemic bacterial infections, the NLRP6 inflammasome negatively regulates neutrophil recruitment and neutrophil extracellular traps (NETs) formation (By similarity). May promote peripheral nerve recovery following injury via an inflammasome-independent mechanism (By similarity). {ECO:0000250|UniProtKB:Q91WS2, ECO:0000269|PubMed:12387869, ECO:0000269|PubMed:30392956, ECO:0000269|PubMed:30674671, ECO:0000269|PubMed:31932628, ECO:0000269|PubMed:33377178, ECO:0000269|PubMed:34161762, ECO:0000269|PubMed:34678144}.

Molecular Weight:	98.8 kDa
UniProt:	<a href="#">P59044</a>
Pathways:	<a href="#">Inflammasome</a>

## 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.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
Restrictions:	For Research Use only

## Handling

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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