

Datasheet for ABIN3136161  
**NOD1 Protein (AA 1-953) (Strep Tag)**



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Overview

Quantity:	1 mg
Target:	NOD1
Protein Characteristics:	AA 1-953
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NOD1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MEEHGHHME GTPLGCHSHI KLLKINREHL VTNIRNTQCL VDNLLENGYF SAEDAEIVCA CPTKPKVKRK ILDLVQSKGE EVSEFFLYVL QQLEDAYVDL RLWLSEIGFS PSQLIRTKTI VNTDPVSRYT QQLRHQLGRD SKFMLCYAQK EDLLEETYM DTLMELVGFN NENLGSLGGL DCLLDHSTGV LNEHGETVFV FGDAGVGKSM LLQRLQSLWA SGRLTSTAKF FFHFRCRMFS CFKESDMLSL QDLLFKHFCY PEQDPEEVFS FLLRFPHTAL FTFDGLDELH SDFDLSRVPD SCCPWEPAHP LVLLANLLSG RLLKGAGKLL TARTGVEVPR QLLRKKVLLR GFSPSHLRAY ARRMFPERTA QEHLQQLDA NPNLCSLCGV PLFCWIIFRC FQHFQTVFEG SSSQLPDCAV TLTDVFLVLT EVHLNRPQPS SLVQRNTRSP AETLRAGWRT LHALGEVAHR GTDKSLFVFG QEEVQASKLQ EGDQLQGLFLR ALPDVGPEQG QSYEFFHRTL QAFFTAFFLV ADDKVSTREL LRFFREWTSPT GEATSSSCHS SFFSFQCLGG RSRLGPDPPR NKDHFQFTNL FLCGLLAKAR QKLLRQLVPK AILRRKRKAL WAHLFASLRS YLKS LPRVQS GGFNQVHAMP TFLWMLRCIY ETQSQKVGRL AARGISADYL KLAFCNACSA DCSALSFLVH HFHRQLALDL DNNNLNDYGV
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QELQPCFSRL TVIRLSVNQI TDTGVKVLCE ELTKYKIVTF LGLYNNQITD IGARYVAQIL  
DECRGLKHLK LGKNRITSEG GKCVALAVKN STSIVDVGMW GNQIGDEGAK AFAEALKDHP  
SLTTLSLAFN GISPEGGKSL AQALKQNTTL TVIWLTKNEL NDESAECFAE MLRVNQTLRH  
LWLIQNRTA KGTAQLARAL QKNTAITEIC LNGNLIKPEE AKVFENEKRI ICF

**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 by multi-step, protein-specific process to ensure correct folding and modification.
- 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 will ensure that you receive a correctly folded 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 in several dilutions and is measured against its specific reference buffer.

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- We use the ExPASy's protParam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):  1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE. 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	≥ 80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Target Details

Target:	NOD1
Alternative Name:	Nod1 ( <a href="#">NOD1 Products</a> )
Background:	Nucleotide-binding oligomerization domain-containing protein 1 (mNod1),FUNCTION: Pattern recognition receptor (PRR) that detects bacterial peptidoglycan fragments and other danger signals and thus participates in both innate and adaptive immune responses (PubMed:12796777, PubMed:21715553). Specifically recognizes and binds gamma-D-glutamyl-meso-diaminopimelic acid (iE-DAP), a dipeptide present in peptidoglycan of Gram-negative bacteria (PubMed:12796777, PubMed:16211083). Preferentially binds iE-DAP in tetrapeptide-containing muropeptides (MurNAc-TetraDAP or TetraDAP) (PubMed:16211083). Ligand binding triggers oligomerization that facilitates the binding and subsequent activation of the proximal adapter receptor-interacting RIPK2 (By similarity). Following recruitment, RIPK2 undergoes 'Met-1'- (linear) and 'Lys-63'-linked polyubiquitination by E3 ubiquitin-protein ligases XIAP, BIRC2, BIRC3 and the LUBAC complex, becoming a scaffolding protein for downstream effectors, triggering activation of the NF-kappa-B and MAP kinases signaling (By similarity). This in turn leads to the transcriptional activation of hundreds of genes involved in immune response (By similarity). Also acts as a regulator of antiviral response elicited by dsRNA and the expression of RLR pathway members by targeting IFIH1 and TRAF3 to modulate the formation of IFIH1-MAVS and TRAF3-MAVS complexes leading to increased transcription of type I IFNs (By similarity). Also acts as a regulator of autophagy via its interaction with ATG16L1, possibly by recruiting ATG16L1 at the site of bacterial entry (PubMed:19898471). Besides recognizing pathogens, also involved in the endoplasmic reticulum stress response: acts by sensing and

## Target Details

binding to the cytosolic metabolite sphingosine-1-phosphate generated in response to endoplasmic reticulum stress, initiating an inflammation process that leads to activation of the NF-kappa-B and MAP kinases signaling (PubMed:27007849). In addition, plays a role in insulin trafficking in beta cells in a cell-autonomous manner (PubMed:21715553, PubMed:31201384). Mechanistically, upon recognizing cognate ligands, NOD1 and RIPK2 localize to insulin vesicles where they recruit RAB1A to direct insulin trafficking through the cytoplasm (PubMed:31201384). {ECO:0000250|UniProtKB:Q9Y239, ECO:0000269|PubMed:12796777, ECO:0000269|PubMed:16211083, ECO:0000269|PubMed:19898471, ECO:0000269|PubMed:21715553, ECO:0000269|PubMed:27007849, ECO:0000269|PubMed:31201384}.

Molecular Weight:	107.7 kDa
UniProt:	<a href="#">Q8BHB0</a>
Pathways:	<a href="#">Activation of Innate immune Response</a> , <a href="#">Positive Regulation of Endopeptidase Activity</a> , <a href="#">Toll-Like Receptors Cascades</a> , <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

Format:	Liquid
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# Handling

Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)