

Datasheet for ABIN3136591 NOD2 Protein (AA 1-1020) (Strep Tag)



Overview

Quantity:	250 µg
Target:	NOD2
Protein Characteristics:	AA 1-1020
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NOD2 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Brand:	AliCE®
Sequence:	MRSSCCDMCS QEEFQAQRSQ LVALLISGSL EGFESILDWL LSWDVLSRED YEGLSLPGQP
	LSHSARRLLD TVWNKGVWGC QKLLEAVQEA QANSHTFELY GSWDTHSLHP TRDLQSHRPA
	IVRRLYNHVE AMLELAREGG FLSQYECEEI RLPIFTSSQR ARRLLDLAAV KANGLAAFLL
	QHVRELPAPL PLPYEAAECQ KFISKLRTMV LTQSRFLSTY DGSENLCLED IYTENILELQ
	TEVGTAGALQ KSPAILGLED LFDTHGHLNR DADTILVVGE AGSGKSTLLQ RLHLLWATGR
	SFQEFLFIFP FSCRQLQCVA KPLSLRTLLF EHCCWPDVAQ DDVFQFLLDH PDRVLLTFDG
	LDEFKFRFTD RERHCSPIDP TSVQTLLFNL LQGNLLKNAC KVLTSRPDAV SALLRKFVRT
	ELQLKGFSEE GIQLYLRKHH REPGVADRLI QLIQATSALH GLCHLPVFSW MVSRCHRELL
	LQNRGFPTTS TDMYLLILQH FLLHASPPDS SPLGLGPGLL QSRLSTLLHL GHLALRGLAM
	SCYVFSAQQL QAAQVDSDDI SLGFLVRAQS SVPGSKAPLE FLHITFQCFF AAFYLAVSAD
	TSVASLKHLF SCGRLGSSLL GRLLPNLCIQ GSRVKKGSEA ALLQKAEPHN LQITAAFLAG

Order at www.antibodies-online.com | www.antikoerper-online.de | www.anticorps-enligne.fr | www.antibodies-online.cn International: +49 (0)241 95 163 153 | USA & Canada: +1 877 302 8632 | support@antibodies-online.com Page 1/5 | Product datasheet for ABIN3136591 | 05/14/2025 | Copyright antibodies-online. All rights reserved. LLSQQHRDLL AACQVSERVL LQRQARARSC LAHSLREHFH SIPPAVPGET KSMHAMPGFI WLIRSLYEMQ EEQLAQEAVR RLDIGHLKLT FCRVGPAECA ALAFVLQHLQ RPVALQLDYN SVGDVGVEQL RPCLGVCTAL YLRDNNISDR GARTLVECAL RCEQLQKLAL FNNKLTDACA CSMAKLLAHK QNFLSLRVGN NHITAAGAEV LAQGLKSNTS LKFLGFWGNS VGDKGTQALA EVVADHQNLK WLSLVGNNIG SMGAEALALM LEKNKSLEEL CLEENHICDE GVYSLAEGLK RNSTLKFLKL SNNGITYRGA EALLQALSRN SAILEVWLRG NTFSLEEIQT LSSRDARLLL 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.
- The protein's absorbance will be measured against its specific reference buffer.

Order at www.antibodies-online.com | www.antikoerper-online.de | www.anticorps-enligne.fr | www.antibodies-online.cn International: +49 (0)241 95 163 153 | USA & Canada: +1 877 302 8632 | support@antibodies-online.com Page 2/5 | Product datasheet for ABIN3136591 | 05/14/2025 | Copyright antibodies-online. All rights reserved. • 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:	NOD2
Alternative Name:	Nod2 (NOD2 Products)
Alternative Name: Background:	Nod2 (NOD2 Products) Nucleotide-binding oligomerization domain-containing protein 2 (Caspase recruitment domain- containing protein 15),FUNCTION: Pattern recognition receptor (PRR) that detects bacterial peptidoglycan fragments and other danger signals and plays an important role in gastrointestinal immunity (PubMed:15692051, PubMed:15692052, PubMed:19805227, PubMed:21715553). Specifically activated by muramyl dipeptide (MDP), a fragment of bacterial peptidoglycan found in every bacterial peptidoglycan type (PubMed:15692051, PubMed:15692052, PubMed:25429073). NOD2 specifically recognizes and binds 6-0-phospho- MDP, the phosphorylated form of MDP, which is generated by NAGK (PubMed:36002575). 6-0- phospho-MDP-binding triggers oligomerization that facilitates the binding and subsequent activation of the proximal adapter receptor-interacting RIPK2 (PubMed:15692051, PubMed:15692052, PubMed:22607974). 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 (PubMed:15692051, PubMed:15692052, PubMed:22607974). This in turn leads to the transcriptional activation of hundreds of genes involved in immune response (PubMed:22607974). Its ability to detect bacterial MDP plays a central role in maintaining the equilibrium between intestinal microbiota and host immune responses to control inflammation (PubMed:19805227, PubMed:21421666, PubMed:25088769, PubMed:23281400, PubMed:24062413, PubMed:24882705, PubMed:25666722, PubMed:28127403). An imbalance in this relationship results in dysbiosis,
	whereby pathogenic bacteria prevail on commensals, causing damage in the intestinal epithelial barrier as well as allowing bacterial invasion and inflammation (PubMed:25088769, PubMed:22281400). Acta as a regulator of appetite by compine MDD in a subject of brain
	Publyled:23281400). Acts as a regulator of appetite by sensing MDP in a subset of brain

Order at www.antibodies-online.com | www.antikoerper-online.de | www.anticorps-enligne.fr | www.antibodies-online.cn International: +49 (0)241 95 163 153 | USA & Canada: +1 877 302 8632 | support@antibodies-online.com Page 3/5 | Product datasheet for ABIN3136591 | 05/14/2025 | Copyright antibodies-online. All rights reserved. neurons: microbiota-derived MDP reach the brain, where they bind and activate NOD2 in inhibitory hypothalamic neurons, decreasing neuronal activity, thereby regulating satiety and body temperature (PubMed:35420957). NOD2-dependent MDP-sensing of bacterial cell walls in the intestinal epithelial compartment contributes to sustained postnatal growth upon undernutrition (PubMed:36821686). Also plays a role in antiviral response by acting as a sensor of single-stranded RNA (ssRNA) from viruses: upon ssRNA-binding, interacts with MAVS, leading to activation of interferon regulatory factor-3/IRF3 and expression of type I interferon (By similarity). Also acts as a regulator of autophagy in dendritic cells via its interaction with ATG16L1, possibly by recruiting ATG16L1 at the site of bacterial entry (PubMed:19898471, PubMed:19966812, PubMed:27230380). NOD2 activation in the small intestine crypt also contributes to intestinal stem cells survival and function: acts by promoting mitophagy via its association with ATG16L1 (PubMed:31919280). In addition to its main role in innate immunity, also regulates the adaptive immune system by acting as regulator of helper T-cell and regulatory T-cells (Tregs) (PubMed:21856952, PubMed:27230380). Besides recognizing pathogens, also involved in the endoplasmic reticulum stress response: acts by sensing and 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). May also be involved in NLRP1 activation following activation by MDP, leading to CASP1 activation and IL1B release in macrophages (PubMed:18511561). {ECO:0000250|UniProtKB:G1T469, ECO:0000269|PubMed:15692051, ECO:0000269|PubMed:15692052, ECO:0000269|PubMed:18511561, ECO:0000269|PubMed:19805227, ECO:0000269|PubMed:19898471, ECO:0000269|PubMed:19966812, ECO:0000269|PubMed:21421666, ECO:0000269|PubMed:21715553, ECO:0000269|PubMed:21856952, ECO:0000269|PubMed:22607974, EC0:0000269|PubMed:23281400, EC0:0000269|PubMed:24062413, EC0:0000269|PubMed:24882705, EC0:0000269|PubMed:25088769, EC0:0000269|PubMed:25429073, EC0:0000269|PubMed:25666722, EC0:0000269|PubMed:27007849, EC0:0000269|PubMed:27230380, ECO:0000269|PubMed:28127403, ECO:0000269|PubMed:31919280, ECO:0000269|PubMed:35420957, ECO:0000269|PubMed:36002575, ECO:000269|PubMed:36821686}.

Molecular Weight:	113.6 kDa
UniProt:	Q8K3Z0
Pathways:	Activation of Innate immune Response, Cellular Response to Molecule of Bacterial Origin,

Order at www.antibodies-online.com | www.antikoerper-online.de | www.anticorps-enligne.fr | www.antibodies-online.cn International: +49 (0)241 95 163 153 | USA & Canada: +1 877 302 8632 | support@antibodies-online.com Page 4/5 | Product datasheet for ABIN3136591 | 05/14/2025 | Copyright antibodies-online. All rights reserved. Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process, Production of Molecular Mediator of Immune Response, Toll-Like Receptors Cascades, 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.
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