Datasheet for ABIN7554773

NOD1 Protein (AA 1-953) (His tag)

Go to Product page

Overview

Quantity:	1 mg
Target:	NOD1
Protein Characteristics:	AA 1-953
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This NOD1 protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant NOD1 Protein expressed in mammalian cells.
Sequence:	MEEQGHSEME IIPSESHPHI QLLKSNRELL VTHIRNTQCL VDNLLKNDYF SAEDAEIVCA CPTQPDKVRK ILDLVQSKGE EVSEFFLYLL QQLADAYVDL RPWLLEIGFS PSLLTQSKVV VNTDPVSRYT QQLRHHLGRD SKFVLCYAQK EELLLEEIYM DTIMELVGFS NESLGSLNSL ACLLDHTTGI LNEQGETIFI LGDAGVGKSM LLQRLQSLWA TGRLDAGVKF FFHFRCRMFS CFKESDRLCL QDLLFKHYCY PERDPEEVFA FLLRFPHVAL FTFDGLDELH SDLDLSRVPD SSCPWEPAHP LVLLANLLSG KLLKGASKLL TARTGIEVPR QFLRKKVLLR GFSPSHLRAY ARRMFPERAL QDRLLSQLEA NPNLCSLCSV PLFCWIIFRC FQHFRAAFEG SPQLPDCTMT LTDVFLLVTE VHLNRMQPSS LVQRNTRSPV ETLHAGRDTL CSLGQVAHRG MEKSLFVFTQ EEVQASGLQE RDMQLGFLRA LPELGPGGDQ QSYEFFHLTL QAFFTAFFLV LDDRVGTQEL LRFFQEWMPP AGAATTSCYP PFLPFQCLQG SGPAREDLFK NKDHFQFTNL FLCGLLSKAK QKLLRHLVPA AALRRKRKAL WAHLFSSLRG YLKSLPRVQV ESFNQVQAMP TFIWMLRCIY ETQSQKVGQL AARGICANYL KLTYCNACSA DCSALSFVLH HFPKRLALDL DNNNLNDYGV

Product Details

	RELQPCFSRL TVLRLSVNQI TDGGVKVLSE ELTKYKIVTY LGLYNNQITD VGARYVTKIL DECKGLTHLK LGKNKITSEG GKYLALAVKN SKSISEVGMW GNQVGDEGAK AFAEALRNHP SLTTLSLASN GISTEGGKSL ARALQQNTSL EILWLTQNEL NDEVAESLAE MLKVNQTLKH LWLIQNQITA KGTAQLADAL QSNTGITEIC LNGNLIKPEE AKVYEDEKRI ICF **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.**
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalian 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, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	NOD1
Alternative Name:	NOD1 (NOD1 Products)
Background:	Nucleotide-binding oligomerization domain-containing protein 1 (hNod1) (Caspase recruitment domain-containing protein 4),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:11058605, PubMed:12796777, PubMed:12791997,

PubMed:15044951, PubMed:16172124, PubMed:19043560, PubMed:22672233, PubMed:27099311). Specifically recognizes and binds gamma-D-glutamyl-meso-diaminopimelic acid (iE-DAP), a dipeptide present in peptidoglycan of Gram-negative bacteria (PubMed:12871942, PubMed:12796777, PubMed:12791997, PubMed:16211083, PubMed:16172124). Preferentially binds iE-DAP in tripeptide-containing muropeptides (MurNAc-TriDAP or TriDAP) (PubMed:16211083). Ligand binding triggers oligomerization that facilitates the binding and subsequent activation of the proximal adapter receptor-interacting RIPK2 (PubMed:12796777, PubMed:12791997, PubMed:17054981). 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:10880512, PubMed:12791997, PubMed:19043560). This in turn leads to the transcriptional activation of hundreds of genes involved in immune response (PubMed:10880512, PubMed:19043560). 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 (PubMed:32169843). Also acts as a regulator of autophagy via its interaction with ATG16L1, possibly by recruiting ATG16L1 at the site of bacterial entry (By similarity). 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, PubMed:33942347). In addition, plays a role in insulin trafficking in beta cells in a cell-autonomous manner (By similarity). Mechanistically, upon recognizing cognate ligands, NOD1 and RIPK2 localize to insulin vesicles where they recruit RAB1A to direct insulin trafficking through the cytoplasm (By similarity). {ECO:0000250|UniProtKB:Q8BHB0, ECO:0000269|PubMed:10880512, ECO:0000269|PubMed:11058605, ECO:0000269|PubMed:12791997, ECO:0000269|PubMed:12796777, ECO:0000269|PubMed:12871942, ECO:0000269|PubMed:15044951, ECO:0000269|PubMed:16172124, ECO:0000269|PubMed:16211083, ECO:0000269|PubMed:17054981, ECO:0000269|PubMed:19043560, ECO:0000269|PubMed:22672233, ECO:0000269|PubMed:27007849, ECO:0000269|PubMed:27099311, ECO:0000269|PubMed:32169843, ECO:0000269|PubMed:33942347}., FUNCTION: [Isoform 3]: In contrast to isoform 1, does not efficiently recognize and bind gamma-D-glutamyl-meso-diaminopimelic acid (iE-DAP) ligand. {ECO:0000269|PubMed:16172124}.

Target Details

Molecular Weight:	107.7 kDa
UniProt:	Q9Y239
Pathways:	Activation of Innate immune Response, Positive Regulation of Endopeptidase Activity, Toll-Like Receptors Cascades, Inflammasome

Application Details

Application Notes:	We expect the protein to work for functional studies. 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

