

## Datasheet for ABIN3090419 CARD9 Protein (AA 1-536) (Strep Tag)



Overview

Quantity:	250 µg
Target:	CARD9
Protein Characteristics:	AA 1-536
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CARD9 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

## Product Details

Brand:	AliCE®
Sequence:	MSDYENDDEC WSVLEGFRVT LTSVIDPSRI TPYLRQCKVL NPDDEEQVLS DPNLVIRKRK
	VGVLLDILQR TGHKGYVAFL ESLELYYPQL YKKVTGKEPA RVFSMIIDAS GESGLTQLLM
	TEVMKLQKKV QDLTALLSSK DDFIKELRVK DSLLRKHQER VQRLKEECEA GSRELKRCKE
	ENYDLAMRLA HQSEEKGAAL MRNRDLQLEI DQLKHSLMKA EDDCKVERKH TLKLRHAMEQ
	RPSQELLWEL QQEKALLQAR VQELEASVQE GKLDRSSPYI QVLEEDWRQA LRDHQEQANT
	IFSLRKDLRQ GEARRLRCME EKEMFELQCL ALRKDSKMYK DRIEAILLQM EEVAIERDQA
	IATREELHAQ HARGLQEKDA LRKQVRELGE KADELQLQVF QCEAQLLAVE GRLRRQQLET
	LVLSSDLEDG SPRRSQELSL PQDLEDTQLS DKGCLAGGGS PKQPFAALHQ EQVLRNPHDA
	GLSSGEPPEK ERRRLKESFE NYRRKRALRK MQKGWRQGEE DRENTTGSDN TDTEGS
	Sequence without tag. The proposed Strep-Tag is based on experience $\ensuremath{s}$ with the expression
	system, a different complexity of the protein could make another tag necessary. In case you

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	have a special request, please contact us.
Characteristics:	Key Benefits:
	<ul> <li>Made in Germany - from design to production - by highly experienced protein experts.</li> <li>Protein expressed with ALiCE® and purified in one-step affinity chromatography</li> <li>These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).</li> <li>State-of-the-art algorithm used for plasmid design (Gene synthesis).</li> </ul>
	This protein is a <b>made-to-order protein</b> 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 <b>made-to-order proteins</b> 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:
	<ul> <li>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.</li> <li>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!</li> </ul>
	<ul> <li>Concentration:</li> <li>The concentration of our recombinant proteins is measured using the absorbance at 280nm.</li> <li>The protein's absorbance will be measured against its specific reference buffer.</li> <li>We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.</li> </ul>
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

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## Target Details

Target:	CARD9
Alternative Name:	CARD9 (CARD9 Products)
Background:	Caspase recruitment domain-containing protein 9 (hCARD9),FUNCTION: Adapter protein that
	plays a key role in innate immune response against fungi by forming signaling complexes
	downstream of C-type lectin receptors (PubMed:26961233, PubMed:33558980). CARD9-
	mediated signals are essential for antifungal immunity against a subset of fungi from the
	phylum Ascomycota (PubMed:24231284, PubMed:25702837, PubMed:25057046,
	PubMed:26679537, PubMed:26961233, PubMed:26521038, PubMed:27777981,
	PubMed:29080677, PubMed:33558980). Transduces signals in myeloid cells downstream of C-
	type lectin receptors CLEC7A (dectin-1), CLEC6A (dectin-2) and CLEC4E (Mincle), which detect
	pathogen-associated molecular pattern metabolites (PAMPs), such as fungal carbohydrates,
	and trigger CARD9 activation (By similarity). Upon activation, CARD9 homooligomerizes to form
	a nucleating helical template that recruits BCL10 via CARD-CARD interaction, thereby
	promoting polymerization of BCL10 and subsequent recruitment of MALT1: this leads to
	activation of NF-kappa-B and MAP kinase p38 (MAPK11, MAPK12, MAPK13 and/or MAPK14)
	pathways which stimulate expression of genes encoding pro-inflammatory cytokines and
	chemokines (PubMed:11053425, PubMed:26488816, PubMed:31296852, PubMed:26961233,
	PubMed:33558980). CARD9 signaling in antigen-presenting cells links innate sensing of fungi to
	the activation of adaptive immunity and provides a cytokine milieu that induces the
	development and subsequent of interleukin 17-producing T helper (Th17) cells
	(PubMed:24231284). Also involved in activation of myeloid cells via classical ITAM-associated
	receptors and TLR: required for TLR-mediated activation of MAPK, while it is not required for
	TLR-induced activation of NF-kappa-B (By similarity). CARD9 can also be engaged
	independently of BCL10: forms a complex with RASGRF1 downstream of C-type lectin
	receptors, which recruits and activates HRAS, leading to ERK activation and the production of
	cytokines (By similarity). Acts as an important regulator of the intestinal commensal fungi
	(mycobiota) component of the gut microbiota (PubMed:33548172). Plays an essential role in
	antifungal immunity against dissemination of gut fungi: acts by promoting induction of
	antifungal IgG antibodies response in CX3CR1(+) macrophages to confer protection against
	disseminated C.albicans or C.auris infection (PubMed:33548172). Also mediates immunity
	against other pathogens, such as certain bacteria, viruses and parasites, CARD9 signaling is
	however redundant with other innate immune responses (By similarity). In response to
	L.monocytogenes infection, required for the production of inflammatory cytokines activated by
	intracellular peptidoglycan: acts by connecting NOD2 recognition of peptidoglycan to
	downstream activation of MAP kinases (MAPK) without activating NF-kappa-B (By similarity).

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	ECO:0000250 UniProtKB:A2AIV8, ECO:0000269 PubMed:11053425,
	EC0:0000269 PubMed:24231284, EC0:0000269 PubMed:25057046,
	EC0:0000269 PubMed:25702837, EC0:0000269 PubMed:26488816,
	EC0:0000269 PubMed:26521038, EC0:0000269 PubMed:26679537,
	EC0:0000269 PubMed:26961233, EC0:0000269 PubMed:27777981,
	ECO:0000269 PubMed:29080677, ECO:0000269 PubMed:31296852,
	ECO:0000269 PubMed:33548172, ECO:0000269 PubMed:33558980}.
Molecular Weight:	62.2 kDa
UniProt:	Q9H257
Pathways:	Activation of Innate immune Response
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.

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## Handling

Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months