Datasheet for ABIN7545522

ZBP1 Protein (AA 1-429) (His tag)

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Overview

Quantity:	1 mg
Target:	ZBP1
Protein Characteristics:	AA 1-429
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ZBP1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat ZBP1 Protein expressed in mammalien cells.
Sequence:	MAQAPADPGR EGHLEQRILQ VLTEAGSPVK LAQLVKECQA PKRELNQVLY RMKKELKVSL TSPATWCLGG TDPEGEGPAE LALSSPAERP QQHAATIPET PGPQFSQQRE EDIYRFLKDN GPQRALVIAQ ALGMRTAKDV NRDLYRMKSR HLLDMDEQSK AWTIYRPEDS GRRAKSASII YQHNPINMIC QNGPNSWISI ANSEAIQIGH GNIITRQTVS REDGSAGPRH LPSMAPGDSS TWGTLVDPWG PQDIHMEQSI LRRVQLGHSN EMRLHGVPSE GPAHIPPGSP PVSATAAGPE ASFEARIPSP GTHPEGEAAQ RIHMKSCFLE DATIGNSNKM SISPGVAGPG GVAGSGEGEP GEDAGRRPAD TQSRSHFPRD IGQPITPSHS KLTPKLETMT LGNRSHKAAE GSHYVDEASH EGSWWGGGI **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.**
Characteristics:	Key Benefits:

Product Details

	• Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien 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, Western Blot
Grade:	custom-made

Target Details

Target:	ZBP1
Alternative Name:	ZBP1 (ZBP1 Products)
Background:	Z-DNA-binding protein 1 (DNA-dependent activator of IFN-regulatory factors) (DAI) (Tumor stroma and activated macrophage protein DLM-1),FUNCTION: Key innate sensor that recognizes and binds Z-RNA structures, which are produced by a number of viruses, such as herpesvirus, orthomyxovirus or flavivirus, and triggers different forms of cell death (PubMed:32200799). ZBP1 acts as an essential mediator of pyroptosis, necroptosis and apoptosis (PANoptosis), an integral part of host defense against pathogens, by activating RIPK3, caspase-8 (CASP8), and the NLRP3 inflammasome (By similarity). Key activator of necroptosis, a programmed cell death process in response to death-inducing TNF-alpha family members, via its ability to bind Z-RNA: once activated upon Z-RNA-binding, ZBP1 interacts and stimulates RIPK3 kinase, which phosphorylates and activates MLKL, triggering execution of programmed necrosis (By similarity). In addition to TNF-induced necroptosis, necroptosis can also take place in the nucleus in response to orthomyxoviruses infection: ZBP1 recognizes and binds Z-RNA structures that are produced in infected nuclei by orthomyxoviruses, such as the influenza A virus (IAV), leading to ZBP1 activation, RIPK3 stimulation and subsequent MLKL

Target Details

	phosphorylation, triggering disruption of the nuclear envelope and leakage of cellular DNA into the cytosol (PubMed:32200799). ZBP1-dependent cell death in response to IAV infection promotes interleukin-1 alpha (IL1A) induction in an NLRP3-inflammasome-independent manner: IL1A expression is required for the optimal interleukin-1 beta (IL1B) production, and together, these cytokines promote infiltration of inflammatory neutrophils to the lung, leading to the formation of neutrophil extracellular traps (By similarity). In addition to its direct role in driving necroptosis via its ability to sense Z-RNAs, also involved in PANoptosis triggered in response to bacterial infection: component of the AIM2 PANoptosome complex, a multiprotein complex that triggers PANoptosis (By similarity). Also acts as the apical sensor of fungal infection responsible for activating PANoptosis (By similarity). Involved in CASP8-mediated cell death via its interaction with RIPK1 but independently of its ability to sense Z-RNAs (By similarity). In some cell types, also able to restrict viral replication by promoting cell death-independent responses (By similarity). In response to Zika virus infection in neurons, promotes a cell death-independent pathway that restricts viral replication: together with RIPK3, promotes a death-independent transcriptional program that modifies the cellular metabolism via up-regulation expression of the enzyme ACOD1/IRG1 and production of the metabolite itaconate (By similarity). Itaconate inhibits the activity of succinate dehydrogenase, generating a metabolic state in neurons that suppresses replication of viral genomes (By similarity). {ECO:0000250|UniProtKB:Q9QY24, ECO:0000269|PubMed:32200799}., FUNCTION: (Microbial infection) In case of herpes simplex virus 1/HHV-1 infection, forms hetero-amyloid structures with HHV-1 protein RIR1/ICP6 which may inhibit ZBP1-mediated necroptosis, thereby preventing host cell death pathway and allowing viral evasion. {ECO:0000269|PubMed:33348174}.
Molecular Weight:	46.3 kDa
UniProt:	Q9H171

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.
Restrictions:	For Research Use only

Handling

Format:	Liquid

Handling

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