Datasheet for ABIN7548133

GSDMD Protein (AA 1-484) (His tag)

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Overview

Quantity:	1 mg
Target:	GSDMD
Protein Characteristics:	AA 1-484
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This GSDMD protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat GSDMD Protein expressed in mammalien cells.
Sequence:	MGSAFERVVR RVVQELDHGG EFIPVTSLQS STGFQPYCLV VRKPSSSWFW KPRYKCVNLS IKDILEPDAA EPDVQRGRSF HFYDAMDGQI QGSVELAAPG QAKIAGGAAV SDSSSTSMNV YSLSVDPNTW QTLLHERHLR QPEHKVLQQL RSRGDNVYVV TEVLQTQKEV EVTRTHKREG SGRFSLPGAT CLQGEGQGHL SQKKTVTIPS GSTLAFRVAQ LVIDSDLDVL LFPDKKQRTF QPPATGHKRS TSEGAWPQLP SGLSMMRCLH NFLTDGVPAE GAFTEDFQGL RAEVETISKE LELLDRELCQ LLLEGLEGVL RDQLALRALE EALEQGQSLG PVEPLDGPAG AVLECLVLSS GMLVPELAIP VVYLLGALTM LSETQHKLLA EALESQTLLG PLELVGSLLE QSAPWQERST MSLPPGLLGN SWGEGAPAWV LLDECGLELG EDTPHVCWEP QAQGRMCALY ASLALLSGLS QEPH **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.**

Product Details

Characteristics:	Key Benefits: • 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:	GSDMD
Alternative Name:	GSDMD (GSDMD Products)
Background:	Gasdermin-D (Gasdermin domain-containing protein 1) [Cleaved into: Gasdermin-D, N-terminal (GSDMD-NT) (hGSDMD-NTD), Gasdermin-D, C-terminal (GSDMD-CT) (hGSDMD-CTD), Gasdermin-D, p13 (Gasdermin-D, 13 kDa) (13 kDa GSDMD), Gasdermin-D, p40],FUNCTION: [Gasdermin-D]: Precursor of a pore-forming protein that plays a key role in host defense against pathogen infection and danger signals (PubMed:26375003, PubMed:26375259, PubMed:27281216). This form constitutes the precursor of the pore-forming protein: upon cleavage, the released N-terminal moiety (Gasdermin-D, N-terminal) binds to membranes and forms pores, triggering pyroptosis (PubMed:26375003, PubMed:26375259, PubMed:27281216). {ECO:0000269|PubMed:26375003, ECO:0000269|PubMed:26375259, ECO:0000269|PubMed:27281216}., FUNCTION: [Gasdermin-D, N-terminal]: Promotes pyroptosis in response to microbial infection and danger signals (PubMed:26375003, PubMed:26375259, PubMed:27418190, PubMed:28392147, PubMed:32820063, PubMed:34289345). Produced by the cleavage of gasdermin-D by inflammatory caspases CASP1, CASP4 or CASP5 in response

to canonical, as well as non-canonical (such as cytosolic LPS) inflammasome activators (PubMed:26375003, PubMed:26375259, PubMed:27418190). After cleavage, moves to the plasma membrane where it strongly binds to inner leaflet lipids, including monophosphorylated phosphatidylinositols, such as phosphatidylinositol 4-phosphate, bisphosphorylated phosphatidylinositols, such as phosphatidylinositol (4,5)-bisphosphate, as well as phosphatidylinositol (3,4,5)-bisphosphate, and more weakly to phosphatidic acid and phosphatidylserine (PubMed:27281216, PubMed:29898893, PubMed:36227980). Homooligomerizes within the membrane and forms pores of 10-15 nanometers (nm) of inner diameter, allowing the release of mature interleukin-1 (IL1B and IL18) and triggering pyroptosis (PubMed:27418190, PubMed:27281216, PubMed:29898893, PubMed:33883744). Gasdermin pores also allow the release of mature caspase-7 (CASP7) (By similarity). In some, but not all, cells types, pyroptosis is followed by pyroptotic cell death, which is caused by downstream activation of ninjurins (NINJ1 or NINJ2), which mediate membrane rupture (cytolysis) (PubMed:33472215, PubMed:37198476). Also forms pores in the mitochondrial membrane, resulting in release of mitochondrial DNA (mtDNA) into the cytosol (By similarity). Gasdermin-D, N-terminal released from pyroptotic cells into the extracellular milieu rapidly binds to and kills both Gram-negative and Gram-positive bacteria, without harming neighboring mammalian cells, as it does not disrupt the plasma membrane from the outside due to lipid-binding specificity (PubMed:27281216). Under cell culture conditions, also active against intracellular bacteria, such as Listeria monocytogenes (By similarity). Also active in response to MAP3K7/TAK1 inactivation by Yersinia toxin YopJ, which triggers cleavage by CASP8 and subsequent activation (By similarity). Strongly binds to bacterial and mitochondrial lipids, including cardiolipin (PubMed:27281216). Does not bind to unphosphorylated phosphatidylinositol, phosphatidylethanolamine nor phosphatidylcholine (PubMed:27281216). {ECO:0000250|UniProtKB:Q9D8T2, ECO:0000269|PubMed:26375003, ECO:0000269|PubMed:26375259, ECO:0000269|PubMed:27281216, ECO:0000269|PubMed:27418190, ECO:0000269|PubMed:28392147, ECO:0000269|PubMed:29898893, ECO:0000269|PubMed:32820063, ECO:0000269|PubMed:33472215, ECO:0000269|PubMed:33883744, ECO:0000269|PubMed:34289345, ECO:0000269|PubMed:36227980, ECO:0000269|PubMed:37198476}., FUNCTION: [Gasdermin-D, p13]: Transcription coactivator produced by the cleavage by CASP3 or CASP7 in the upper small intestine in response to dietary antigens (By similarity). Required to maintain food tolerance in small intestine: translocates to the nucleus and acts as a coactivator for STAT1 to induce the transcription of CIITA and MHC class II molecules, which in turn induce type 1 regulatory T (Tr1) cells in upper small intestine (By similarity). {ECO:0000250|UniProtKB:Q9D8T2}., FUNCTION: [Gasdermin-D,

Target Details

	p40]: Produced by the cleavage by papain allergen (PubMed:35794369). After cleavage, moves to the plasma membrane and homooligomerizes within the membrane and forms pores of 10-15 nanometers (nm) of inner diameter, allowing the specific release of mature interleukin-33 (IL33), promoting type 2 inflammatory immune response (PubMed:35794369). {ECO:0000269|PubMed:35794369}.
Molecular Weight:	52.8 kDa
UniProt:	P57764
Pathways:	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.
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