

Datasheet for ABIN3121354

GBP1 Protein (AA 1-589) (Strep Tag)



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Overview

Quantity:	250 µg
Target:	GBP1
Protein Characteristics:	AA 1-589
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This GBP1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Brand:	AliCE®
Sequence:	<p>MASEIHMSEP MCLIENTEAQ LVINQEALRI LSAITQPVVV VAIVGLYRTG KSYLMNKLKAG KRTGFSLGST VQSHTKGIWM WCVPHPKKAG QTLVLLDTEG LEDVEKGDNQ NDCWIFALAV LLSSTFIYNS IGTINQQAMD QLHYVTELTQ LIKSKSSPDQ SDVDNSANFV GFFPIFVWTL RDFSLEDFD GESITPDEYL ETSALRKGK DENTKKFNMP RLCIRKFFPK RKCIFIDRPG DRKQLSKLEW IQEDQLNKEF VEQVAEFTSY IFSYSGVKTL SGGITVNGPR LKSLVQTYVS AICSGELPCM ENAVLTLAQI ENSAAVQKAI TYEEQMNQK IHMPTETLQE LLDLHRTCER EAIEVFMKNS FKDVDQKFQE ELGAQLEAKR DAFVKKNMDM SSAHCSDLLE GLFAHLEEEV KQGTFYKPGG YYLFLQRKQE LEKKYIQTGP KGLQAEVMLR KYFESKEDLA DTLLKMDQSL TEKEKQIEME RIKAEAAEAA NRALAEMQKK HEMLMQKEQ SYQEHMKQLT EKMEQERKEL MAEQQRISL KLQEQERLLK QGFQNESLQL RQEIEKIKNM PPRRSCTIL</p>

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.
- 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:	GBP1
Alternative Name:	Gbp1 (GBP1 Products)
Background:	<p>Guanylate-binding protein 1 (EC 3.6.1.-) (EC 3.6.5.-) (GTP-binding protein 1) (GBP-1) (mGBP-1) (mGBP1) (Guanine nucleotide-binding protein 1) (Interferon-gamma-inducible protein MAG-1) (Interferon-induced guanylate-binding protein 1),FUNCTION: Interferon (IFN)-inducible GTPase that plays important roles in innate immunity against a diverse range of bacterial, viral and protozoan pathogens (PubMed:18025219, PubMed:21551061, PubMed:24715728, PubMed:24739961). Hydrolyzes GTP to GMP in two consecutive cleavage reactions: GTP is first hydrolyzed to GDP and then to GMP in a processive manner (By similarity). Following infection, recruited to the pathogen-containing vacuoles or vacuole-escaped bacteria and promotes both inflammasome assembly and autophagy (PubMed:21551061, PubMed:24715728, PubMed:24739961). Acts as a positive regulator of inflammasome assembly by facilitating the detection of inflammasome ligands from pathogens (PubMed:24715728, PubMed:24739961). Involved in the lysis of pathogen-containing vacuoles, releasing pathogens into the cytosol (PubMed:24715728, PubMed:24739961). Following pathogen release in the cytosol, forms a protein coat in a GTPase-dependent manner that encapsulates pathogens and promotes the detection of ligands by pattern recognition receptors (By similarity). Plays a key role in inflammasome assembly in response to infection by Gram-negative bacteria: following pathogen release in the cytosol, forms a protein coat that encapsulates Gram-negative bacteria and directly binds to lipopolysaccharide (LPS), disrupting the O-antigen barrier and unmasking lipid A that is that detected by the non-canonical inflammasome effector CASP4/CASP11 (PubMed:24715728, PubMed:24739961). Also promotes recruitment of proteins that mediate bacterial cytolysis, leading to release double-stranded DNA (dsDNA) that activates the AIM2 inflammasome (PubMed:24715728, PubMed:24739961). Involved in autophagy by regulating bacteriolytic peptide generation via its interaction with ubiquitin-binding protein SQSTM1, which delivers monoubiquitinated proteins to autolysosomes for the generation of bacteriolytic peptides (PubMed:21551061). Confers protection to several pathogens, including the bacterial pathogens <i>L.monocytogenes</i> and <i>M.bovis</i> BCG as well as the protozoan pathogen <i>T.gondii</i> (PubMed:18025219, PubMed:21551061). Exhibits antiviral activity against influenza virus (By similarity).</p> <p>{ECO:0000250 UniProtKB:P32455, ECO:0000269 PubMed:18025219, ECO:0000269 PubMed:21551061, ECO:0000269 PubMed:24715728, ECO:0000269 PubMed:24739961}.</p>
Molecular Weight:	67.7 kDa

Target Details

UniProt: [Q01514](#)

Pathways: [Cellular Response to Molecule of Bacterial Origin](#)

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