

Datasheet for ABIN7556859  
**GBP1 Protein (AA 1-589) (His tag)**



[Go to Product page](#)

## Overview

|                               |   |
|-------------------------------|---|
| Quantity:                     | 1 mg  |
| Target:                       | GBP1  |
| Protein Characteristics:      | AA 1-589                                    |
| Origin:                       | Mouse                                       |
| Source:                       | HEK-293 Cells                               |
| Protein Type:                 | Recombinant                                 |
| Purification tag / Conjugate: | This GBP1 protein is labelled with His tag. |

## Product Details

|           |   |
|-----------|---|
| Purpose:  | Custom-made recombinant Gbp1 Protein expressed in mammalian cells.  |
| Sequence: | MASEIHMSEP MCLIENEAQ LVINQEALRI LSAITQPVVV VAIVGLYRTG KSYLMNKLKAG<br>KRTGFSLGST VQSHTKGIWM WCVPHPKKAG QTLVLLDTEG LEDVEKGDNQ NDCWIFALAV<br>LLSSTFIYNS IGTINQQAMD QLHYVTELD LIKSKSSPDQ SDVDNSANFV GFFPIFVWTL<br>RDFSLDLEFD GESITPDEYL ETSALRKG T DENTKKFNMP RLCIRKFFPK RKCIFDRPG<br>DRKQLSKLEW IQEDQLNKEF VEQVAEFTSY IFSYSGVKTL SGGITVNGPR LKSLVQTYVS<br>AICSGELPCM ENAVLTLAQI ENSAAVQKAI TYEQQMNQK IHMPTETLQE LLDLHRT CER<br>EAIEVFMKNS FKDVDQKFQE ELGAQLEAKR DAFVKKNMDM SSAHCSDLLE GLFAHLEEEV<br>KQGTIFYKPGG YYLFLQRKQE LEKKYIQTGP KGLQAEVMLR KYFESKEDLA DTLLKMDQSL<br>TEKEKQIEME RIKAEAAEAA NRALAEMQKK HEMLMQKEQ SYQEHMKQLT EKMEQERKEL<br>MAEQQRISL KLQEQERLLK QGFQNESLQL RQEIEKIKNM PPRRSCTIL <b>Sequence without tag.</b><br><b>The proposed Purification-Tag is based on experiences with the expression system, a<br/>different complexity of the protein could make another tag necessary. In case you have a</b> |

## Product Details

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### **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

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**Target:** GBP1

**Alternative Name:** Gbp1 ([GBP1 Products](#))

**Background:** 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

## Target Details

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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 *L.monocytogenes* and *M.bovis* BCG as well as the protozoan pathogen *T.gondii* (PubMed:18025219, PubMed:21551061). Exhibits antiviral activity against influenza virus (By similarity). {ECO:0000250|UniProtKB:P32455, ECO:0000269|PubMed:18025219, ECO:0000269|PubMed:21551061, ECO:0000269|PubMed:24715728, ECO:0000269|PubMed:24739961}.

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Molecular Weight: 67.7 kDa

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UniProt: [Q01514](#)

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

## Application Details

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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.

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Restrictions: For Research Use only

## Handling

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Format: Liquid

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Buffer: The buffer composition is at the discretion of the manufacturer.

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## Handling

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Handling Advice: Avoid repeated freeze-thaw cycles.

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Storage: -80 °C

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Storage Comment: Store at -80°C.

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Expiry Date: 12 months