

Recombinant Human GBP3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50356

Size: 10ug, 100ug

Protein Name: Guanylate-binding protein 3 (EC 3.6.5.-) (GTP-binding protein 3) (GBP-3)
(Guanine nucleotide-binding protein 3)

Synonym: GBP3

UniProt ID: Q9H0R5

UniProt Link: www.uniprot.org/uniprotkb/Q9H0R5/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 595 AA

Molecular Weight: 68 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAPEIHMTGPMCLIENTNGELVANPEALKILSAITQPVVVVAIVGLYRTGKSYLMNKLAGKNKGFSLG
STVKSHTKGIWMWCVPHPKPEHTLVLLDTEGLGDVKKGDNQNDSWIFTLAVLLSSTLVYNSMGTIN
QQAMDQLYYVTELTHRIRSKSSPDENENEDSADFVSFFPDFVWTLRDFSLDLEADGQPLTPDEYLE
YSLKLTQGTSQKDKNFNLPRLCIRKFFPKKKCFVFDLPIHRRKLAQLEKLQDEELDPEFVQQVADFCS
YIFSNSKTKTLGGIKVNGPRLESLVLTYNIAISRGLPCMENAVLALAQIENSAAVQKAIHYDQQMG
QKVQLPAETLQELLDLHRVSEEREATEVYMKNSFKDVDHLFQKKLAAQLDKKRDDFCQKNQEASSDR
CSALLQVIFSPLEEEVKAGIYSKPGGYCLFIQKLQDLEKKYYEPRKGIQAEELQTYLKSKEVTDAIL
QTDQILTEKEKEIEVECVKAESAQASAKMVEEMQIKYQQMMEEKEKSYQEHEVKQLTEKMERERAQL
LEEQEKTLSKLQEQARVLKERCQGESTQLQNEIQKLQKTLKKKTKRYMSHKLKI

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Guanylate-binding protein 3 (EC 3.6.5.-) (GTP-binding protein 3) (GBP-3) (Guanine nucleotide-binding protein 3) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Interferon (IFN)-inducible GTPase that plays important roles in innate immunity against a diverse range of bacterial, viral and protozoan pathogens (PubMed:22106366). Hydrolyzes GTP very efficiently; GDP rather than GMP is the major reaction product (By similarity). Following infection, recruited to the pathogen-containing vacuoles or vacuole-escaped bacteria and acts as a positive regulator of inflammasome assembly by promoting the release of inflammasome ligands from bacteria (By similarity). Acts by promoting lysis of pathogen-containing vacuoles, releasing pathogens into the cytosol (By similarity). Following pathogen release in the cytosol, promotes recruitment of proteins that mediate bacterial cytolysis: this liberates ligands that are detected by inflammasomes, such as lipopolysaccharide (LPS) that activates the non-canonical CASP4/CASP11 inflammasome or double-stranded DNA (dsDNA) that activates the AIM2 inflammasome (By similarity). Exhibits antiviral activity against influenza virus (PubMed:22106366).; [Isoform 2]: Shows the most prominent antiviral activity in epithelial cells.

Subcellular Localization: Cytoplasm . Cytoplasm, perinuclear region . Golgi apparatus membrane . Note=Heterodimers with GBP1, GBP2 and GBP5 localize in the compartment of the prenylated GBPs: with GBP1 in a vesicle-like compartment, with GBP2, around the nucleus and with GBP5, at the Golgi apparatus.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.