

Recombinant Human GBP5 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50358

Size: 10ug, 100ug

Protein Name: Guanylate-binding protein 5 (EC 3.6.5.-) (GBP-TA antigen) (GTP-binding protein 5) (GBP-5) (Guanine nucleotide-binding protein 5)

Synonym: GBP5, UNQ2427/PRO4987

UniProt ID: Q96PP8

UniProt Link: www.uniprot.org/uniprotkb/Q96PP8/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 586 AA

Molecular Weight: 67 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MALEIHMSDPMCLIEFNENQLKVNQEALILSAITQPVVVVAIVGLYRTGKSYLMNKLAKGNKGFSVA
STVQSHTKGIWIWCVPHNPNHTLVLLDTEGLGDVEKADNKNDIQIFALALLLSSTFVYNTVKNIDQ
GAIDLLHNVTETDLLKARNSPDLDRVEDPADSASFPPDLVWTLRDFCLGLEIDGQLVTPDEYLENSL
RPKQGSQDQRVQNFNLPRLCIQKFFPKKKCFIFDLPAHQKKLAQLETLPDDELEPEFVQQVTEFCSYIF
SHSMTKTLPGGIMVNGSRLKNLVLTYYVNAISSGDLPCIEAVLALAQRENSAAVQKAIHYDQQMGQ
KVQLPMETLQELLDLHRTSERAIEVFMKNSFKDQVDSFQKELETLLDAKQNDICKRNLEASSDYCS
ALLKDIFGPLEEAVKQGIYSKPGGHNLFIQKTEELKAKYYREPRKGIQAEVLQKYLKSKESVSHAILQ
TDQALTETEKKKKEAQVKAEEKAEQAQLAAIQRQNEQMMQERERLHQEQVRQMEIAKQNWLAEQ
QKMQEQQMQEQAAQLSTTFQAQNRSLSELQHAQRTVNNDPCVLL

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 5 (EC 3.6.5.-) (GBP-TA antigen) (GTP-binding protein 5) (GBP-5) (Guanine nucleotide-binding protein 5) 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 (By similarity). Hydrolyzes GTP, but in contrast to other family members, does not produce GMP (PubMed:20180847). 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). As an activator of NLRP3 inflammasome assembly: promotes selective NLRP3 inflammasome assembly in response to microbial and soluble, but not crystalline, agents (PubMed:22461501). Independently of its GTPase activity, acts as an inhibitor of various viruses infectivity, such as HIV-1, Zika and influenza A viruses, by inhibiting FURIN-mediated maturation of viral envelope proteins (PubMed:26996307, PubMed:31091448).; Antigenic tumor-specific truncated splice form.

Subcellular Localization: Cytoplasmic vesicle membrane ; Lipid-anchor, GPI-like-anchor . Golgi apparatus membrane ; Lipid-anchor . Cytoplasm .

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.