

Recombinant Mouse GBP2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51994

Size: 10ug, 100ug

Protein Name: Guanylate-binding protein 2 (EC 3.6.5.-) (GTP-binding protein 2) (GBP-2) (mGBP-2) (mGBP2) (Guanine nucleotide-binding protein 2) (Interferon-induced guanylate-binding protein 2)

Synonym: Gbp2

UniProt ID: Q9Z0E6

UniProt Link: www.uniprot.org/uniprotkb/Q9Z0E6/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 589 AA

Molecular Weight: 67 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MASEIHMSEPMCLIENTEAQLVINQEALRILSAITQPVVVVAIVGLYRTGKSYLMNKLAKGRTGFSLGS
TVQSHTKGIWMWCVPHPKAGQTLVLLDTEGLEDEKGDNQNDWCWIFALAVLLSSTFIYNSIGTINQ
QAMDQLHYVTELTDLIKSKSSPDQSGVDDSANFVGFFPTFWTLRDFSLELEVNGKPVTSDEYLEHS
LTLKKGADKTKSFNEPRLCIRKFFPKRKCFIFDRPAQRKQLSKLETREEELCGEFVEQVAEFTSYIL
SYSSVKTLCGGIIVNGPRLKSLVQTYVGAISNGSLPCMESAVLTLAQIENSAAVQKAITHYEEQMNQKI
QMPTETLQELLDLHRPIESEAEVFLKNSFKDVDQKFQTELGNLLVAKRDAFIKKNMDVSSARCSDLL
EDIFGPLEEEVKLGTFSKPGGYLFLQMRQELEKKYNQAPGKGLQAEAMLKNYFDSKADVETLLQT
DQSLTEAAKEVEEERTKAEAAEAANRELEKKQKEFELMMQQKEKSYQEHVKKLTEKMKDEQKQLLA
EQENIIAAKLREQEKFLKEGFENESKKLIREIDTLKQNKSSGKCTIL

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 2 (EC 3.6.5.-) (GTP-binding protein 2) (GBP-2) (mGBP-2) (mGBP2) (Guanine nucleotide-binding protein 2) (Interferon-induced guanylate-binding protein 2) 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:18025219, PubMed:24715728, PubMed:24739961, PubMed:25774715, PubMed:25774716, PubMed:27693356, PubMed:30062052). Hydrolyzes GTP to GMP in 2 consecutive cleavage reactions, but the major reaction product is GDP (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 (PubMed:24715728, PubMed:24739961, PubMed:25774715, PubMed:25774716). Acts by promoting lysis of pathogen-containing vacuoles, releasing pathogens into the cytosol (PubMed:24715728, PubMed:24739961, PubMed:25774715, PubMed:25774716). Following pathogen release in the cytosol, promotes recruitment of proteins that mediate bacterial cytolysis, such as Gm12250/Irgb10: 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 (PubMed:24715728, PubMed:24739961, PubMed:25774715, PubMed:25774716, PubMed:27693356, PubMed:30062052). Confers protection to the protozoan pathogen *Toxoplasma gondii* (PubMed:18025219). Independently of its GTPase activity, acts as an inhibitor of various viruses infectivity by inhibiting FURIN-mediated maturation of viral envelope proteins (By similarity).

Subcellular Localization: Cytoplasmic vesicle membrane ; Lipid-anchor . Golgi apparatus membrane ; Lipid-anchor . Cytoplasm . Cytoplasm, perinuclear region . Note=GBP2-GBP5 dimers localize to 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.