

Recombinant Mouse IRGM3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51884

Size: 10ug, 100ug

Protein Name: Immunity-related GTPase family M protein 3 (EC 3.6.5.-) (Interferon gamma-induced GTPase)

Synonym: Igtp, Irgm3

UniProt ID: Q9DCE9

UniProt Link: www.uniprot.org/uniprotkb/Q9DCE9/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 423 AA

Molecular Weight: 48 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDLVTKLPQNIWKTFTLFINMANYLKRLLSPWSKSMTAGESLYSSQNSSSPEVIEDIGKAVTEGNLQK
VIGIVKDEIQSKSRVYRVKIAVTGDSGNGMSSFINALRFIGHEEEDSAPTGVVVRTTKKPACYSSDSHFP
YVELWDLPLGLGATAQSVESYLEEMQISTFDLIIIVASEQFSSNHVKLAITMQRMKRKFYVWTKLDRD
LSTSTFPEPQLLQSIQRNIRENLQQAQVRDPPLFLISCFSPSFHDFPELRNTLQKDIFSIRYRDPLEIIS
QVCDKCISNKAFLSKEDQMLMKDLEAAVSSDDTANLERGLQTYQKLFGVDDGSLQQVARSTGRLE
MGSRALQFQDLIKMDRRLELMMCFVAVNKFLRLLESSWWYGLWNVVTRYFRHQRHKLVEIVAENTK
TSLRKALKDSVLPPEIH

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 Immunity-related GTPase family M protein 3 (EC 3.6.5.-) (Interferon gamma-induced GTPase) 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: Immunity-related GTPase that plays important roles in host resistance to acute infection by protozoan, such as *Toxoplasma gondii* and *Leishmania major* (PubMed:10639151, PubMed:11500431, PubMed:12438372, PubMed:16940170, PubMed:18765738). Acts as a dynamin-like protein that binds to intracellular membranes and promotes remodeling and trafficking of those membranes (By similarity). Acts predominantly to restrict acute protozoan infection: expression is required in both hematopoietic and non-hematopoietic cellular compartments and is dependent on Stat1 (PubMed:12438372). Only plays a partial role in the control of latent *Toxoplasma* infection (PubMed:12438372). Involved in the clearance of acute protozoan infections by regulating autophagy, possibly by promoting the fusion of phagosomes with lysosomes for efficient degradation of vacuoles containing parasites (PubMed:16940170). Probably involved in membrane disruption of parasite-containing vacuoles (PubMed:18765738). In addition to its role in resistance to acute infection by protozoan, also acts as a negative regulator of the integrated stress response (ISR) following coxsackievirus B3 infection (PubMed:21981022). Promotes differentiation of activated CD8(+) T-cells (PubMed:25644000).

Subcellular Localization: Endoplasmic reticulum . Cytoplasmic vesicle membrane . Lipid droplet . Note=Delivered to the parasitophorous vacuole via the cell endoplasmic reticulum early after invasion (PubMed:18765738). It then condenses into vesicle-like structures on the vacuole just prior to parasitophorous vacuole disruption (PubMed:18765738). Mainly associates with lipid droplets and 'self' cytoplasmic vacuoles, while it only weakly coats 'non-self' pathogen-containing vacuoles (PubMed:23785284).

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.