

GBP1-5 (G-12): sc-166960

BACKGROUND

Guanylate-binding proteins (GBP) GTP-binding proteins with a high-turnover GTPase activity and an antiviral effect. GBP proteins belong to a group of large GTP-binding proteins with a high concentration-dependent GTPase activity and a common ability to undergo oligomerization. GBP proteins are bone marrow-derived GTPases encoded by interferon-activated genes and are inducible following IFN treatment.

REFERENCES

1. Praefcke, G.J., et al. 1999. Nucleotide-binding characteristics of human guanylate-binding protein 1 (hGBP1) and identification of the third GTP-binding motif. *J. Mol. Biol.* 292: 321-332.
2. Anderson, S.L., et al. 1999. Genomic organization and chromosomal localization of a new member of the murine interferon-induced guanylate-binding protein family. *J. Interferon Cytokine Res.* 19: 487-494.

CHROMOSOMAL LOCATION

Genetic locus: GBP1/GBP2/GBP3/GBP4/GBP5 (human) mapping to 1p22.2; Gbp2b/Gbp2/Gbp3/Gbp5 (mouse) mapping to 3 H1.

SOURCE

GBP1-5 (G-12) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of GBP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GBP1-5 (G-12) is available conjugated to agarose (sc-166960 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166960 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166960 PE), fluorescein (sc-166960 FITC), Alexa Fluor® 488 (sc-166960 AF488), Alexa Fluor® 546 (sc-166960 AF546), Alexa Fluor® 594 (sc-166960 AF594) or Alexa Fluor® 647 (sc-166960 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166960 AF680) or Alexa Fluor® 790 (sc-166960 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GBP1-5 (G-12) is recommended for detection of GBP1, GBP2, GBP3, GBP4 and GBP5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

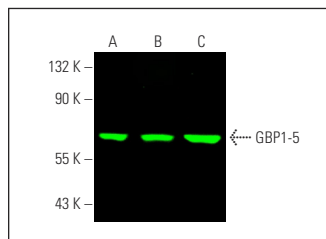
Molecular Weight of GBP1-5: 67 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, RT-4 whole cell lysate: sc-364257 or A-431 whole cell lysate: sc-2201.

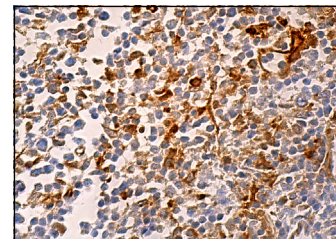
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



GBP1-5 (G-12) Alexa Fluor® 680: sc-166960 AF680. Direct near-infrared western blot analysis of GBP1-5 expression in MOLT-4 (A), RT-4 (B) and A-431 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



GBP1-5 (G-12): sc-166960. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of lymphoid cells.

SELECT PRODUCT CITATIONS

1. Yamamoto, M., et al. 2012. A cluster of interferon-γ-inducible p65 GTPases plays a critical role in host defense against *Toxoplasma gondii*. *Immunity* 37: 302-313.
2. Niedelman, W., et al. 2013. Cell death of γ interferon-stimulated human fibroblasts upon *Toxoplasma gondii* infection induces early parasite egress and limits parasite replication. *Infect. Immun.* 81: 4341-4349.
3. Ohshima, J., et al. 2014. Role of mouse and human autophagy proteins in IFN-γ-induced cell-autonomous responses against *Toxoplasma gondii*. *J. Immunol.* 192: 3328-3335.
4. Park, S., et al. 2016. Targeting by Autophagy proteins (TAG): targeting of IFNγ-inducible GTPases to membranes by the LC3 conjugation system of autophagy. *Autophagy* 12: 1153-1167.
5. Sasai, M., et al. 2017. Essential role for GABARAP autophagy proteins in interferon-inducible GTPase-mediated host defense. *Nat. Immunol.* 18: 899-910.
6. Lee, Y., et al. 2019. Initial phospholipid-dependent Irgb6 targeting to *Toxoplasma gondii* vacuoles mediates host defense. *Life Sci. Alliance* 3: e201900549.
7. Li, G., et al. 2021. LIMIT is an immunogenic lncRNA in cancer immunity and immunotherapy. *Nat. Cell Biol.* 23: 526-537.
8. Wu, M., et al. 2022. *Toxoplasma gondii* CDPK3 controls the intracellular proliferation of parasites in macrophages. *Front. Immunol.* 13: 905142.
9. Papoutsopoulou, S., et al. 2022. Nfkb2 deficiency and its impact on plasma cells and immunoglobulin expression in murine small intestinal mucosa. *Am. J. Physiol. Gastrointest. Liver Physiol.* 323: G306-G317.

RESEARCH USE

For research use only, not for use in diagnostic procedures.