SANTA CRUZ BIOTECHNOLOGY, INC.

GBP2 (G-9): sc-271568

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Guanylate-binding proteins GBP1 and GBP2 are GTP-binding proteins with a high-turnover GTPase activity and an antiviral effect. GBP1 mediates an antiviral effect against vesicular stomatitis virus and encephalomyocarditis virus and plays a role in the IFN-mediated antiviral response against these viruses. GBP1 and GBP2 belong to a group of large GTP-binding proteins with a high concentration-dependent GTPase activity that have the common ability to undergo oligomerization. GBP1 and GBP2 are bone marrow-derived GTPases encoded by interferon-activated genes and are inducible following IFN treatment. Specifically, GBP1 is expressed in cultured mammary epithelial tumor cell lines after treatment with IFN-γ and LPS.

CHROMOSOMAL LOCATION

Genetic locus: GBP2 (human) mapping to 1p22.2.

SOURCE

GBP2 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of GBP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GBP2 (G-9) is available conjugated to agarose (sc-271568 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271568 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271568 PE), fluorescein (sc-271568 FITC), Alexa Fluor® 488 (sc-271568 AF488), Alexa Fluor® 546 (sc-271568 AF546), Alexa Fluor® 594 (sc-271568 AF594) or Alexa Fluor® 647 (sc-271568 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271568 AF680) or Alexa Fluor® 790 (sc-271568 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271568 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GBP2 (G-9) is recommended for detection of GBP2 of 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).

Suitable for use as control antibody for GBP2 siRNA (h): sc-106877, GBP2 shRNA Plasmid (h): sc-106877-SH and GBP2 shRNA (h) Lentiviral Particles: sc-106877-V.

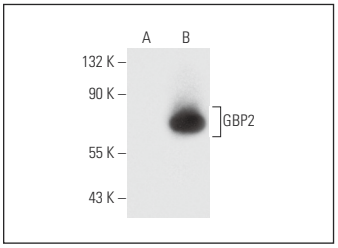
Molecular Weight of GBP2: 67 kDa.

Positive Controls: GBP2 (h): 293T Lysate: sc-111436.

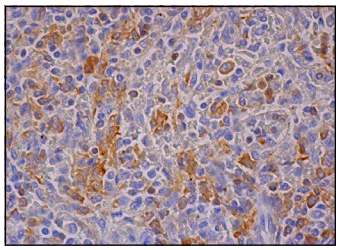
STORAGE

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

DATA



GBP2 (G-9): sc-271568. Western blot analysis of GBP2 expression in non-transfected: sc-117752 (**A**) and human GBP2 transfected: sc-111436 (**B**) 293T whole cell lysates.



GBP2 (G-9): sc-271568. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in red pulp.

SELECT PRODUCT CITATIONS

1. Wandel, M.P., et al. 2017. GBPs inhibit motility of *Shigella flexneri* but are targeted for degradation by the bacterial ubiquitin ligase IpaH9.8. Cell Host Microbe 22: 507-518.e5.
2. Braun, E., et al. 2019. Guanylate-binding proteins 2 and 5 exert broad antiviral activity by inhibiting furin-mediated processing of viral envelope proteins. Cell Rep. 27: 2092-2104.e10.
3. Srinivasachar Badarinarayan, S., et al. 2020. HIV-1 infection activates endogenous retroviral promoters regulating antiviral gene expression. Nucleic Acids Res. 48: 10890-10908.
4. Fisch, D., et al. 2022. Toxoplasma-proximal and distal control by GBPs in human macrophages. Pathog. Dis. 79: ftab058.
5. Tang, H., et al. 2022. 6-gingerol attenuates subarachnoid hemorrhage-induced early brain injury via GBP2/PI3K/AKT pathway in the rat model. Front. Pharmacol. 13: 882121.
6. Rojas-Lopez, M., et al. 2023. NLRP11 is a pattern recognition receptor for bacterial lipopolysaccharide in the cytosol of human macrophages. Sci. Immunol. 8: eabo4767.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.