

GBF1 (25): sc-136240

BACKGROUND

Protein trafficking to the membrane requires formation of coated carrier vesicles, such as COPI-coated vesicles from the *cis*-Golgi, a process triggered by membrane binding of the GTP-bound form of ADP-ribosylation factors. Normally, brefeldin A (BFA) blocks this action by inhibiting guanine nucleotide exchange factors (GEFs) for ADP-ribosylation factor. However, GBF1, a member of the Sec7-domain family of GEFs, allows cells to maintain normal Golgi morphology and grow in the presence of BFA. The gene encoding the human GBF1 protein maps to chromosome 10q24.32, with the Sec7-domain centrally positioned, and a proline-rich C-terminus. Based on mutagenesis analysis, this proline rich region appears to interact with p115 in a functionally significant manner.

REFERENCES

- Mansour, S.J., et al. 1998. Human GBF1 is a ubiquitously expressed gene of the Sec7 domain family mapping to 10q24. *Genomics* 54: 323-327.
- Claude, A., et al. 1999. GBF1: a novel Golgi-associated BFA-resistant guanine nucleotide exchange factor that displays specificity for ADP-ribosylation factor 5. *J. Cell Biol.* 146: 71-84.

CHROMOSOMAL LOCATION

Genetic locus: GBF1 (human) mapping to 10q24.32; Gbf1 (mouse) mapping to 19 C3.

SOURCE

GBF1 (25) is a mouse monoclonal antibody raised against amino acids 1266-1379 of GBF1 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.

Blocking peptide available for competition studies, sc-136240 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GBF1 (25) is recommended for detection of GBF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for GBF1 siRNA (h): sc-105388, GBF1 siRNA (m): sc-145349, GBF1 shRNA Plasmid (h): sc-105388-SH, GBF1 shRNA Plasmid (m): sc-145349-SH, GBF1 shRNA (h) Lentiviral Particles: sc-105388-V and GBF1 shRNA (m) Lentiviral Particles: sc-145349-V.

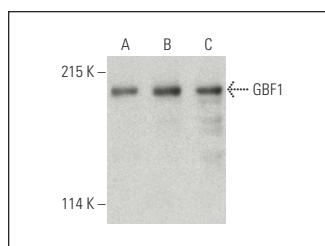
Molecular Weight of GBF1: 206 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Caco-2 cell lysate: sc-2262 or BC₃H1 cell lysate: sc-2299.

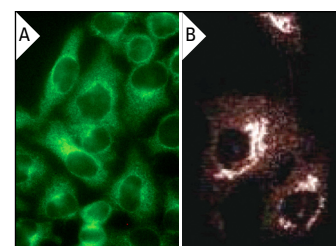
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GBF1 (25): sc-136240. Western blot analysis of GBF1 expression in HeLa (A), Caco-2 (B) and BC₃H1 (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



GBF1 (25): sc-136240. Immunofluorescence staining of methanol-fixed HeLa (A) and BC₃H1 (B) cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Greninger, A.L., et al. 2012. The 3A protein from multiple picornaviruses utilizes the Golgi adaptor protein ACBD3 to recruit PI4KIIIβ. *J. Virol.* 86: 3605-3616.
- Love, J.D., et al. 2015. Microsomal triglyceride transfer protein (MTP) associates with cytosolic lipid droplets in 3T3-L1 adipocytes. *PLoS ONE* 10: e0135598.
- Obata, Y., et al. 2019. N822K- or V560G-mutated KIT activation preferentially occurs in lipid rafts of the Golgi apparatus in leukemia cells. *Cell Commun. Signal.* 17: 114.
- Uckelely, Z.M., et al. 2019. Quantitative proteomics of Uukuniemi virus-host cell interactions reveals GBF1 as proviral host factor for phleboviruses. *Mol. Cell. Proteomics* 18: 2401-2417.
- Raphemot, R., et al. 2019. Discovery of druggable host factors critical to plasmodium liver-stage infection. *Cell Chem. Biol.* 26: 1253-1262.
- Smola, M., et al. 2020. Structural basis for hijacking of the host ACBD3 protein by bovine and porcine enteroviruses and kobuviruses. *Arch. Virol.* 165: 355-366.

STORAGE

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

RESEARCH USE

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