SANTA CRUZ BIOTECHNOLOGY, INC.

t-GMP (48A10): sc-21726

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Golgi complex plays an essential role in the post-translational modification and sorting of proteins transported from the endoplasmic reticulum (ER). The Golgi stack consists of a distinct *cis* face, or entry face, and a *trans* face, or exit face, which are connected via the *cis*, medial and *trans* Golgi networks. The networks are functionally distinct; different enzymes are contained within each compartment and impart different posttranslational modifications (glycosylation, sulfation, phosphorylation, acylation and proteolytic digestion) on proteins as they are transported through the organelle. c-GMP *(cis*-Golgi membrane protein) localizes to both the *cis* and medial cisternae, whereas t-GMP localizes to the *trans*-most cisternae and the *trans*-tubular network. Treatment with the fungal metabolite brefeldin A (BFA) induces both disassembly of the *cis/*middle- and *trans*-Golgi complex and also translocation of c-GMP and t-GMP to the ER. In the adult rat epididymis, t-GMP and c-GMP exhibit a reticular, perinuclear pattern *in vitro* expression pattern.

REFERENCES

1. Barriocanal, J.G., Bonifacino, J.S., Yuan, L. and Sandoval, I.V. 1986. Biosynthesis, glycosylation, movement through the Golgi system, and transport to lysosomes by an N-linked carbohydrate-independent mechanism of three lysosomal integral membrane proteins. J. Biol. Chem. 261: 16755-16763.
2. Yuan, L., Barriocanal, J.G., Bonifacino, J.S. and Sandoval, I.V. 1987. Two integral membrane proteins located in the *cis*-middle and *trans*-part of the Golgi system acquire sialylated N-linked carbohydrates and display different turnovers and sensitivity to cAMP-dependent phosphorylation. J. Cell Biol. 105: 215-227.
3. Alcalde, J., Bonay, P., Roa, A., Vilaro, S. and Sandoval, I.V. 1992. Assembly and disassembly of the Golgi complex: two processes arranged in a *cis-trans* direction. J. Cell Biol. 116: 69-83.
4. Suarez-Quian, C.A. and Jelesoff, N. 1994. Two Golgi integral membrane proteins (GIMPS) exhibit region- and cell type-specific distribution in the epididymis of the adult rat. Microsc. Res. Tech. 29: 481-491.

SOURCE

t-GMP (48A10) is a mouse monoclonal antibody raised against integral membrane protein from liver fraction enriched in Golgi cisternae of rat 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.

t-GMP (48A10) is available conjugated to agarose (sc-21726 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-21726 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21726 PE), fluorescein (sc-21726 FITC), Alexa Fluor® 488 (sc-21726 AF488), Alexa Fluor® 546 (sc-21726 AF546), Alexa Fluor® 594 (sc-21726 AF594) or Alexa Fluor® 647 (sc-21726 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21726 AF680) or Alexa Fluor® 790 (sc-21726 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

t-GMP (48A10) is recommended for detection of t-GMP 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).

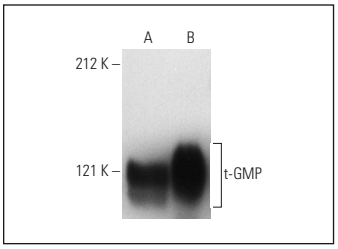
Molecular Weight of t-GMP: 100 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or 3611-RF whole cell lysate: sc-2215.

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



t-GMP (48A10): sc-21726. Western blot analysis of t-GMP expression in KNRK (**A**) and 3611-RF (**B**) cell extracts.

SELECT PRODUCT CITATIONS

1. Brejchová, J., Sýkora, J., Dlouhá, K., Roubalová, L., Ostašov, P., Vošahlíková, M., Hof, M. and Svoboda, P. 2011. Fluorescence spectroscopy studies of HEK293 cells expressing DOR-Gi1α fusion protein; the effect of cholesterol depletion. Biochim. Biophys. Acta 1808: 2819-2829.

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.

PROTOCOLS

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