SANTA CRUZ BIOTECHNOLOGY, INC.

GCP2 (F-3): sc-377117

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The γ-Tubulin complex is composed of γ Tubulin and the γ-Tubulin complex-associated proteins GCP2, GCP3, GCP4, GCP5 and GCP6, all of which are essential components of microtubule organizing centers. γ-Tubulin complex components are localized to both the centrosome, where they are involved in microtubule nucleation, and to the cytoplasm, where they exist as soluble complexes that can be recruited to the centrosome as needed. Although the GCP proteins are related, they have distinct roles which contribute to the proper function of the γ-Tubulin complex. GCP2 (γ-Tubulin complex component 2), also known as TUBGCP2 or SPBC97 (spindle pole body protein Spc97 homolog) is a ubiquitously expressed 902 amino acid protein that localizes to the centrosome and is involved in microtubule nucleation.

REFERENCES

1. Murphy, S.M., et al. 1998. The mammalian γ Tubulin complex contains homologues of the yeast spindle pole body components spc97p and spc98p. J. Cell Biol. 141: 663-674.
2. Fava, F., et al. 1999. Human 76p: a new member of the γ Tubulin-associated protein family. J. Cell Biol. 147: 857-868.

CHROMOSOMAL LOCATION

Genetic locus: TUBGCP2 (human) mapping to 10q26.3; Tubgcp2 (mouse) mapping to 7 F4.

SOURCE

GCP2 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 383-423 within an internal region of GCP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GCP2 (F-3) is available conjugated to agarose (sc-377117 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377117 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377117 PE), fluorescein (sc-377117 FITC), Alexa Fluor® 488 (sc-377117 AF488), Alexa Fluor® 546 (sc-377117 AF546), Alexa Fluor® 594 (sc-377117 AF594) or Alexa Fluor® 647 (sc-377117 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377117 AF680) or Alexa Fluor® 790 (sc-377117 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377117 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

GCP2 (F-3) is recommended for detection of γ-Tubulin complex component 2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GCP2 siRNA (h): sc-106882, GCP2 siRNA (m): sc-77387, GCP2 shRNA Plasmid (h): sc-106882-SH, GCP2 shRNA Plasmid (m): sc-77387-SH, GCP2 shRNA (h) Lentiviral Particles: sc-106882-V and GCP2 shRNA (m) Lentiviral Particles: sc-77387-V.

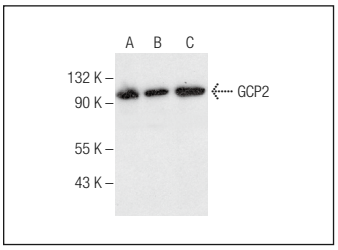
Molecular Weight of GCP2: 102 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, TF-1 cell lysate: sc-2412 or HEL 92.1.7 cell lysate: sc-2270.

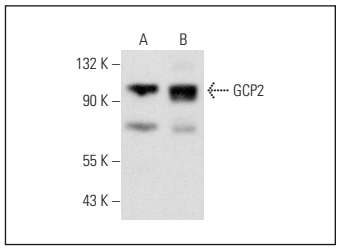
RECOMMENDED SUPPORT REAGENTS

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



GCP2 (F-3): sc-377117. Western blot analysis of GCP2 expression in TF-1 (**A**), MIA PaCa-2 (**B**) and HEL 92.1.7 (**C**) whole cell lysates.



GCP2 (F-3): sc-377117. Western blot analysis of GCP2 expression in HEL 92.1.7 (**A**) and F9 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chi, W., et al. 2021. PLK4-phosphorylated NEDD1 facilitates cartwheel assembly and centriole biogenesis initiations. J. Cell Biol. 220: e202002151.
2. Zhang, Y., et al. 2022. Reconstitution and mechanistic dissection of the human microtubule branching machinery. J. Cell Biol. 221: e202109053.
3. Rai, D., et al. 2024. CAMSAPs and nucleation-promoting factors control microtubule release from γ-TuRC. Nat. Cell Biol. 26: 404-420.

RESEARCH USE

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