SANTA CRUZ BIOTECHNOLOGY, INC.

# GCP2 (D-5): sc-390116

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.
3. Hillman, R.T., et al. 2004. An unappreciated role for RNA surveillance. Genome Biol. 5: R8.
4. Rush, J., et al. 2005. Immunoaffinity profiling of tyrosine phosphorylation in cancer cells. Nat. Biotechnol. 23: 94-101.
5. Delgehyr, N., et al. 2005. Microtubule nucleation and anchoring at the centrosome are independent processes linked by ninein function. J. Cell Sci. 118: 1565-1575.
6. Arbildua, J.J., et al. 2006. Fluorescence resonance energy transfer and molecular modeling studies on 4',6-diamidino-2-phenylindole (DAPI) complexes with Tubulin. Protein Sci. 15: 410-419.
7. Stirling, P.C., et al. 2006. PhLP3 modulates CCT-mediated Actin and Tubulin folding via ternary complexes with substrates. J. Biol. Chem. 281: 7012-7021.
8. Van Thuan, N., et al. 2006. Donor centrosome regulation of initial spindle formation in mouse somatic cell nuclear transfer: roles of γ-Tubulin and nuclear mitotic apparatus protein 1. Biol. Reprod. 74: 777-787.
9. Lüders, J., et al. 2006. GCP-WD is a γ Tubulin targeting factor required for centrosomal and chromatin-mediated microtubule nucleation. Nat. Cell Biol. 8: 137-147.


## CHROMOSOMAL LOCATION

Genetic locus: TUBGCP2 (human) mapping to 10q26.3.

## SOURCE

GCP2 (D-5) is a mouse monoclonal antibody raised against amino acids 131-430 mapping within an internal region of GCP2 of human origin.

## RESEARCH USE

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

## 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.

## APPLICATIONS

GCP2 (D-5) is recommended for detection of γ-Tubulin complex component 2 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) 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 shRNA Plasmid (h): sc-106882-SH and GCP2 shRNA (h) Lentiviral Particles: sc-106882-V.

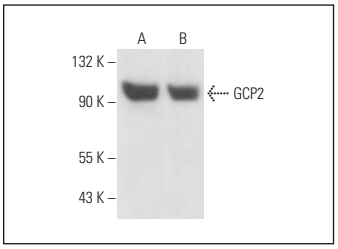
Molecular Weight of GCP2: 102 kDa.

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

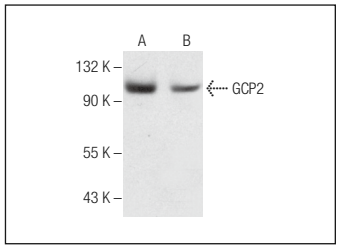
## RECOMMENDED SUPPORT REAGENTS

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 (D-5): sc-390116. Western blot analysis of GCP2 expression in HEL 92.1.7 (**A**) and TF-1 (**B**) whole cell lysates.




GCP2 (D-5): sc-390116. Western blot analysis of GCP2 expression in MIA PaCa-2 (**A**) and HEL 92.1.7 (**B**) whole cell lysates.

## STORAGE

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

## PROTOCOLS

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