

# GCP5 (N-16): sc-54006

## BACKGROUND

The  $\gamma$ -Tubulin complex is composed of  $\gamma$  Tubulin and the  $\gamma$ -Tubulin complex-associated proteins GCP2, GCP3, GCP4, GCP5 and GCP6, all of which are essential components of microtubule organizing centers.  $\gamma$ -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  $\gamma$ -Tubulin complex. GCP5 ( $\gamma$ -Tubulin complex component 5), also known as TUBGCP5, is a 1,024 amino acid member of the  $\gamma$ -Tubulin complex and is highly expressed in heart and skeletal muscle. Defects in the gene encoding GCP5 are implicated in Prader-Willi syndrome (PWS), a rare genetic disorder associated with obesity, compulsive behavior and lower intellectual ability.

## REFERENCES

- Murphy, S.M., et al. 1998. The mammalian  $\gamma$ -Tubulin complex contains homologues of the yeast spindle pole body components spc97p and spc98p. *J. Cell Biol.* 141: 663-674.
- Fava, F., et al. 1999. Human 76p: A new member of the  $\gamma$ -Tubulin-associated protein family. *J. Cell Biol.* 147: 857-868.
- Murphy, S.M., et al. 2001. GCP5 and GCP6: two new members of the human  $\gamma$ -Tubulin complex. *Mol. Biol. Cell* 12: 3340-3352.
- Rush, J., et al. 2005. Immunoaffinity profiling of tyrosine phosphorylation in cancer cells. *Nat. Biotechnol.* 23: 94-101.
- Delgehr, N., et al. 2005. Microtubule nucleation and anchoring at the centrosome are independent processes linked by Ninein function. *J. Cell Sci.* 118: 1565-1575.
- Lüders, J., et al. 2006. GCP-WD is a  $\gamma$ -Tubulin targeting factor required for centrosomal and chromatin-mediated microtubule nucleation. *Nat. Cell Biol.* 8: 137-147.
- 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.
- Van Thuan, N., et al. 2006. Donor centrosome regulation of initial spindle formation in mouse somatic cell nuclear transfer: roles of  $\gamma$ -Tubulin and nuclear mitotic apparatus protein 1. *Biol. Reprod.* 74: 777-787.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: TUBGCP5 (human) mapping to 15q11.2; Tubgcp5 (mouse) mapping to 7 B5.

## SOURCE

GCP5 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GCP5 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54006 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GCP5 (N-16) is recommended for detection of GCP5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

GCP5 (N-16) is also recommended for detection of GCP5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GCP5 siRNA (h): sc-105392, GCP5 siRNA (m): sc-77388, GCP5 shRNA Plasmid (h): sc-105392-SH, GCP5 shRNA Plasmid (m): sc-77388-SH, GCP5 shRNA (h) Lentiviral Particles: sc-105392-V and GCP5 shRNA (m) Lentiviral Particles: sc-77388-V.

Molecular Weight of GCP5: 118 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.