SANTA CRUZ BIOTECHNOLOGY, INC.

GCP6 (H-9): sc-374063

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. GCP6 (γ-Tubulin complex component 6), also known as TUBGCP6, localizes to the centrosome and is a ubiquitously expressed 1,819 amino acid member of the γ-Tubulin complex. Unlike GCP3 and GCP2, GCP6 is not well conserved among eukaryotes. Three isoforms of GCP6 exist due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: TUBGCP6 (human) mapping to 22q13.33; Tubgcp6 (mouse) mapping to 15 A1.

SOURCE

GCP6 (H-9) is a mouse monoclonal antibody raised against amino acids 268-566 mapping within an internal region of GCP6 of human 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.

GCP6 (H-9) is available conjugated to agarose (sc-374063 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374063 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374063 PE), fluorescein (sc-374063 FITC), Alexa Fluor® 488 (sc-374063 AF488), Alexa Fluor® 546 (sc-374063 AF546), Alexa Fluor® 594 (sc-374063 AF594) or Alexa Fluor® 647 (sc-374063 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374063 AF680) or Alexa Fluor® 790 (sc-374063 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

GCP6 (H-9) is recommended for detection of GCP6 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 GCP6 siRNA (h): sc-77347, GCP6 shRNA Plasmid (h): sc-77347-SH and GCP6 shRNA (h) Lentiviral Particles: sc-77347-V.

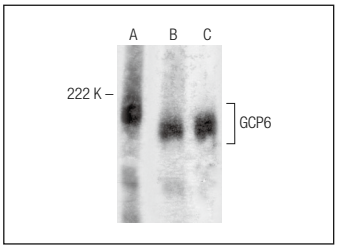
Molecular Weight of GCP6: 200 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

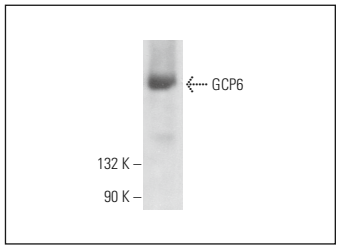
RECOMMENDED SUPPORT REAGENTS

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



GCP6 (H-9): sc-374063. Western blot analysis of GCP6 expression in HeLa (**A**), K-562 (**B**) and 293T (**C**) whole cell lysates.



GCP6 (H-9): sc-374063. Western blot analysis of GCP6 expression in Neuro-2A whole cell lysate.

SELECT PRODUCT CITATIONS

1. Farache, D., et al. 2016. Functional analysis of γ-Tubulin complex proteins indicates specific lateral association via their N-terminal domains. J. Biol. Chem. 291: 23112-23125.
2. Klebanovych, A., et al. 2019. Regulation of microtubule nucleation in mouse bone marrow-derived mast cells by protein tyrosine phosphatase SHP-1. Cells 8: 345.
3. Gupta, H., et al. 2020. SAS-6 association with γ-Tubulin ring complex is required for centriole duplication in human cells. Curr. Biol. 30: 2395-2403.e4.
4. Haren, L., et al. 2020. A stable core of GCPs 4, 5 and 6 promotes the assembly of γ-Tubulin ring complexes. J. Cell Sci. 133: jcs244368.
5. Chi, W., et al. 2021. PLK4-phosphorylated NEDD1 facilitates cartwheel assembly and centriole biogenesis initiations. J. Cell Biol. 220: e202002151.
6. Klebanovych, A., et al. 2022. C53 interacting with UFM1-protein ligase 1 regulates microtubule nucleation in response to ER stress. Cells 11: 555.
7. Zhang, Y., et al. 2022. Reconstitution and mechanistic dissection of the human microtubule branching machinery. J. Cell Biol. 221: e202109053.
8. Rai, D., et al. 2024. CAMSAPs and nucleation-promoting factors control microtubule release from γ-TuRC. Nat. Cell Biol. 26: 404-420.

STORAGE

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