SANTA CRUZ BIOTECHNOLOGY, INC.

γ2 Tubulin (m2): 293T Lysate: sc-124859

BACKGROUND

Tubulin exists as five distinct forms, designated α, β, γ, δ and ε, all of which function as critical components of the cytoskeleton, specifically forming heterodimers which multimerize to produce microtubule filaments. γ2 Tubulin, also known as TUBG2, is a 451 amino acid member of the Tubulin family and, like other Tubulin proteins, plays a role in the minusend nucleation of microtubule assembly. The gene encoding γ2 Tubulin maps to human chromosome 17q21.2, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Burns, R.G. 1995. Analysis of the γ Tubulin sequences: implications for the functional properties of γ Tubulin. J. Cell Sci. 108: 2123-2130.
2. Tassin, A.M., Celati, C., Moudjou, M. and Bornens, M. 1998. Characterization of the human homologue of the yeast spc98p and its association with γ Tubulin. J. Cell Biol. 141: 689-701.
3. Wise, D.O., Krahe, R. and Oakley, B.R. 2000. The γ Tubulin gene family in humans. Genomics 67: 164-170.
4. Herreros, L., Rodríguez-Fernandez, J.L., Brown, M.C., Alonso-Lebrero, J.L., Cabañas, C., Sánchez-Madrid, F., Longo, N., Turner, C.E. and Sánchez-Mateos, P. 2000. Paxillin localizes to the lymphocyte microtubule organizing center and associates with the microtubule cytoskeleton. J. Biol. Chem. 275: 26436-26440.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605785. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Yuba-Kubo, A., Kubo, A., Hata, M. and Tsukita, S. 2005. Gene knockout analysis of two γ Tubulin isoforms in mice. Dev. Biol. 282: 361-373.

CHROMOSOMAL LOCATION

Genetic locus: Tubg2 (mouse) mapping to 11 D.

PRODUCT

γ2 Tubulin (m2): 293T Lysate represents a lysate of mouse γ2 Tubulin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

γ2 Tubulin (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive γ2 Tubulin antibodies. Recommended use: 10-20 µl per lane.

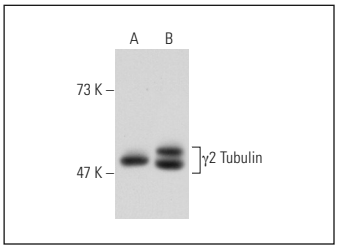
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

γ Tubulin (C-11): sc-17787 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse γ2 Tubulin expression in γ2 Tubulin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

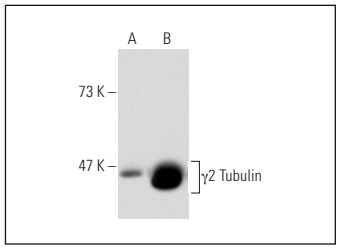
RECOMMENDED SUPPORT REAGENTS

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.

DATA



γ Tubulin (C-11): sc-17787. Western blot analysis of γ2 Tubulin expression in non-transfected: sc-117752 (**A**) and human γ2 Tubulin transfected: sc-112064 (**B**) 293T whole cell lysates.



γ Tubulin (TU-30): sc-51715. Western blot analysis of γ2 Tubulin expression in non-transfected: sc-117752 (**A**) and mouse γ2 Tubulin transfected: sc-124859 (**B**) 293T whole cell lysates.

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.