SANTA CRUZ BIOTECHNOLOGY, INC.

TBCC (H-5): sc-374587

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Microtubules, the primary component of the cytoskeletal network, are highly dynamic structures composed of α/β Tubulin heterodimers. Biosynthesis of functional microtubules involve the participation of several chaperones, termed tubulin folding cofactors A (TBCA), D (TBCD), E (TBCE) and C (TBCC), that act on folding intermediates downstream of the cytosolic chaperonin, alternatively named TCP. TBCC (Tubulin-specific chaperone C), also known as β Tubulin-folding cofactor C or CFC, is a 346 amino acid protein belonging to the TBCD family. Interaction with TBCC causes the release of Tubulin polypeptides that are committed to the native state. TBCC shares significant homology with X-linked retinitis pigmentosa 2 gene RP2, in which mutations cause the progressive degeneration of photoreceptor cells.

REFERENCES

1. Tian, G., et al. 1996. Pathway leading to correctly folded β-Tubulin. Cell 86: 287-296.
2. Bartolini, F., et al. 2002. Functional overlap between retinitis pigmentosa 2 protein and the Tubulin-specific chaperone cofactor C. J. Biol. Chem. 277: 14629-14634.
3. Grynberg, M., et al. 2003. Domain analysis of the Tubulin cofactor system: a model for Tubulin folding and dimerization. BMC Bioinformatics 4: 46.
4. Tian, G., et al. 2006. Cryptic out-of-frame translational initiation of TBCE rescues Tubulin formation in compound heterozygous HRD. Proc. Natl. Acad. Sci. USA 103: 13491-13496.
5. Kortazar, D., et al. 2007. Role of cofactors B (TBCB) and E (TBCE) in Tubulin heterodimer dissociation. Exp. Cell Res. 313: 425-436.
6. Cunningham, L.A. and Kahn, R.A. 2008. Cofactor D functions as a centrosomal protein and is required for the recruitment of the γ-Tubulin RING complex at centrosomes and organization of the mitotic spindle. J. Biol. Chem. 283: 7155-7165.
7. Hage-Sleiman, R., et al. 2010. Tubulin binding cofactor C (TBCC) suppresses tumor growth and enhances chemosensitivity in human breast cancer cells. BMC Cancer 10: 135.

CHROMOSOMAL LOCATION

Genetic locus: TBCC (human) mapping to 6p21.1; Tbcc (mouse) mapping to 17 C.

SOURCE

TBCC (H-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 273-305 within an internal region of TBCC of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374587 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TBCC (H-5) is recommended for detection of TBCC 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).

TBCC (H-5) is also recommended for detection of TBCC in additional species, including equine and canine.

Suitable for use as control antibody for TBCC siRNA (h): sc-95496, TBCC siRNA (m): sc-154115, TBCC shRNA Plasmid (h): sc-95496-SH, TBCC shRNA Plasmid (m): sc-154115-SH, TBCC shRNA (h) Lentiviral Particles: sc-95496-V and TBCC shRNA (m) Lentiviral Particles: sc-154115-V.

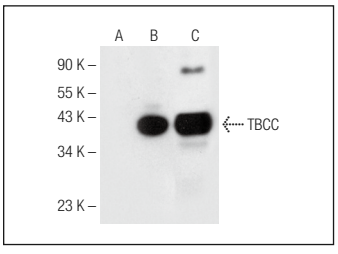
Molecular Weight of TBCC: 39 kDa.

Positive Controls: TBCC (m2): 293T Lysate: sc-123939 or ARPE-19 whole cell lysate: sc-364357.

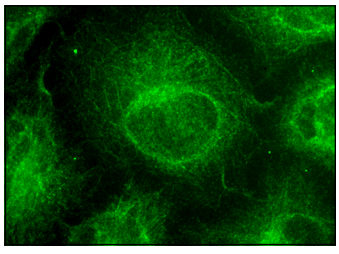
RECOMMENDED SUPPORT REAGENTS

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



TBCC (H-5): sc-374587. Western blot analysis of TBCC expression in non-transfected 293T: sc-117752 (**A**), mouse TBCC transfected 293T: sc-123939 (**B**) and ARPE-19 (**C**) whole cell lysates.



TBCC (H-5): sc-374587. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

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.