SANTA CRUZ BIOTECHNOLOGY, INC.

TBCB (E-1): sc-390783

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), B (TBCB), D (TBCD), E (TBCE) and C (TBCC), that act on folding intermediates downstream of the cytosolic chaperon, alternatively named TCP. TBCB (Tubulin folding cofactor B), also known as CG22, CKAP1 or CKAPI, is a 244 amino acid cytoplasmic protein containing one CAP-Gly domain and in widely expressed. TBCB is involved in the regulation of Tubulin heterodimer dissociation and may function as a negative regulator of axonal growth.

REFERENCES

1. Tian, G., et al. 1996. Pathway leading to correctly folded β-Tubulin. Cell 86: 287-296.
2. Tian, G., et al. 1997. Tubulin subunits exist in an activated conformational state generated and maintained by protein cofactors. J. Cell Biol. 138: 821-832.
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. Wang, W., et al. 2005. Gigaxonin interacts with tubulin folding cofactor B and controls its degradation through the ubiquitin-proteasome pathway. Curr. Biol. 15: 2050-2055.
5. Vadlamudi, R.K., et al. 2005. p21-activated kinase 1 regulates microtubule dynamics by phosphorylating tubulin cofactor B. Mol. Cell. Biol. 25: 3726-3736.
6. Kortazar, D., et al. 2007. Role of cofactors B (TBCB) and E (TBCE) in Tubulin heterodimer dissociation. Exp. Cell Res. 313: 425-436.
7. Lopez-Fanarraga, M., et al. 2007. Tubulin cofactor B plays a role in the neuronal growth cone. J. Neurochem. 100: 1680-1687.
8. Fanarraga, M.L., et al. 2009. Tubulin cofactor B regulates microtubule densities during microglia transition to the reactive states. Exp. Cell Res. 315: 535-541.

CHROMOSOMAL LOCATION

Genetic locus: TBCB (human) mapping to 19q13.12; Tbcb (mouse) mapping to 7 B1.

SOURCE

TBCB (E-1) is a mouse monoclonal antibody raised against amino acids 1-200 mapping at the N-terminus of TBCB 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.

RESEARCH USE

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

APPLICATIONS

TBCB (E-1) is recommended for detection of TBCB 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 TBCB siRNA (h): sc-97092, TBCB siRNA (m): sc-154114, TBCB shRNA Plasmid (h): sc-97092-SH, TBCB shRNA Plasmid (m): sc-154114-SH, TBCB shRNA (h) Lentiviral Particles: sc-97092-V and TBCB shRNA (m) Lentiviral Particles: sc-154114-V.

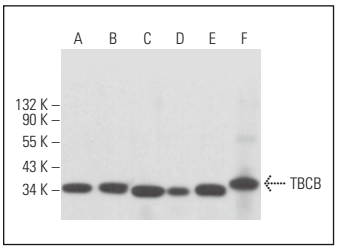
Molecular Weight of TBCB: 27 kDa.

Positive Controls: BYDP whole cell lysate: sc-364368, MIA PaCa-2 cell lysate: sc-2285 or mouse thymus extract: sc-2406.

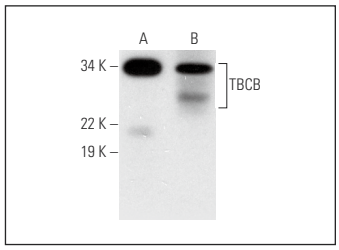
RECOMMENDED SUPPORT REAGENTS

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



TBCB (E-1): sc-390783. Western blot analysis of TBCB expression in MIA PaCa-2 (**A**), BYDP (**B**), Jurkat (**C**), MOLT-4 (**D**) and RAW 264.7 (**E**) whole cell lysates and rat thymus tissue extract (**F**).



TBCB (E-1): sc-390783. Western blot analysis of TBCB expression in MIA PaCa-2 whole cell lysate (**A**) and mouse thymus tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Hotta, T., et al. 2022. EML2-S constitutes a new class of proteins that recognizes and regulates the dynamics of tyrosinated microtubules. Curr. Biol. 32: 3898-3910.e14.

STORAGE

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