SANTA CRUZ BIOTECHNOLOGY, INC.

TBCB (B-12): sc-377139

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.

CHROMOSOMAL LOCATION

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

SOURCE

TBCB (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 19-29 near 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.

TBCB (B-12) is available conjugated to agarose (sc-377139 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377139 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377139 PE), fluorescein (sc-377139 FITC), Alexa Fluor® 488 (sc-377139 AF488), Alexa Fluor® 546 (sc-377139 AF546), Alexa Fluor® 594 (sc-377139 AF594) or Alexa Fluor® 647 (sc-377139 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377139 AF680) or Alexa Fluor® 790 (sc-377139 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377139 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TBCB (B-12) 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.

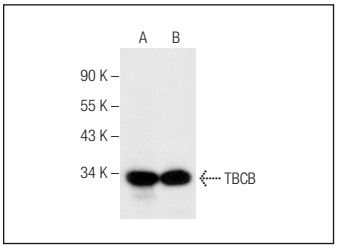
Molecular Weight of TBCB: 27 kDa.

Positive Controls: TBCB (m): 293T Lysate: sc-127638, H4 cell lysate: sc-2408 or MIA PaCa-2 cell lysate: sc-2285.

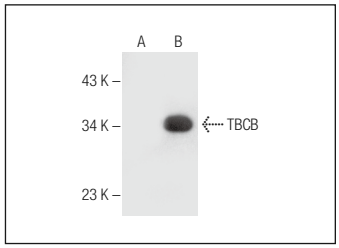
RECOMMENDED SUPPORT REAGENTS

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 (B-12): sc-377139. Western blot analysis of TBCB expression in H4 (**A**) and MIA PaCa-2 (**B**) whole cell lysates.



TBCB (B-12): sc-377139. Western blot analysis of TBCB expression in non-transfected: sc-117752 (**A**) and mouse TBCB transfected: sc-127638 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tan, H., et al. 2017. HILI destabilizes microtubules by suppressing phosphorylation and Gigaxonin-mediated degradation of TBCB. Sci. Rep. 7: 46376.
2. Zheng, Y., et al. 2022. ERK1/2 signalling pathway regulates Tubulin-binding cofactor B expression and affects astrocyte process formation after acute foetal alcohol exposure. Brain Sci. 12: 813.
3. Zheng, Y., et al. 2022. Decreased Tubulin-binding cofactor B was involved in the formation disorder of nascent astrocyte processes by regulating microtubule plus-end growth through binding with end-binding proteins 1 and 3 after chronic alcohol exposure. Front. Cell. Neurosci. 16: 989945.

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 for detailed protocols and support products.