

TBCD (E-14): sc-109078

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 chaperon, alternatively named TCP. TBCD (tubulin folding cofactor D), also known as β Tubulin cofactor D or SSD-1, is a 1,192 amino acid ubiquitously expressed centrosomal protein belonging to the TBCD family. Along with other cofactors, TBCD may participate in capturing and stabilizing β Tubulin intermediates in a quasi-native confirmation. TBCD has been implicated in modulating microtubule dynamics by capturing GTP-bound β Tubulin. Existing as five isoforms produced by alternative splicing events, TBCD contains three HEAT repeats and is down-regulated by shear stress.

REFERENCES

- Schubert, A., et al. 2000. Shear stress-dependent regulation of the human β Tubulin folding cofactor D gene. *Circ. Res.* 87: 1188-1194.
- Martín, L., et al. 2000. Tubulin folding cofactor D is a microtubule destabilizing protein. *FEBS Lett.* 470: 93-95.
- Grynberg, M., et al. 2003. Domain analysis of the tubulin cofactor system: a model for tubulin folding and dimerization. *BMC Bioinformatics* 4: 46.
- Fedyanina, O.S., et al. 2006. Chromosome segregation in fission yeast with mutations in the tubulin folding cofactor D. *Curr. Genet.* 50: 281-294.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: TBCD (human) mapping to 17q25.3; Tbcd (mouse) mapping to 11 E2.

SOURCE

TBCD (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TBCD of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-109078 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TBCD (E-14) is recommended for detection of TBCD of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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); non cross-reactive with TBCD-2.

TBCD (E-14) is also recommended for detection of TBCD in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TBCD siRNA (h): sc-93755, TBCD siRNA (m): sc-154117, TBCD shRNA Plasmid (h): sc-93755-SH, TBCD shRNA Plasmid (m): sc-154117-SH, TBCD shRNA (h) Lentiviral Particles: sc-93755-V and TBCD shRNA (m) Lentiviral Particles: sc-154117-V.

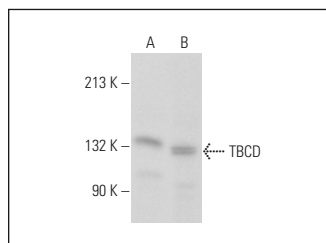
Molecular Weight of TBCD: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TBCD (E-14): sc-109078. Western blot analysis of TBCD expression in HeLa (A) and MCF7 (B) whole cell lysates.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.