SANTA CRUZ BIOTECHNOLOGY, INC.

TBCE (E-16): sc-103897

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. TBCE (tubulin folding cofactor E), also known as HRD, KCS, KCS1 or pac2, is a 527 amino acid cytoplasmic protein containing one CAP-Gly domain and seven LRR (leucine-rich) repeats. TBCE is involved in the second step of the Tubulin folding pathway and is implicated in the maintenance of the neuronal microtubule network. TBCE associates with microtubules and proteasomes, and protects against misfolded protein stress. Mutations in the gene encoding TBCE are the cause of hypoparathyroidism-retardation-dysmorphism syndrome and Kenny-Caffey syndrome type 1.

REFERENCES

1. Tian, G., et al. 1996. Pathway leading to correctly folded β-tubulin. Cell 86: 287-296.
2. Parvari, R., et al. 2002. Mutation of TBCE causes hypoparathyroidism-retardation-dysmorphism and autosomal recessive Kenny-Caffey syndrome. Nat. Genet. 32: 448-452.
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. Naguib, K., et al. 2007. Hypoparathyroidism[corrected]-retardation-dysmorphism (HRD): is there a new variant not caused by a TBCE mutation? Am. J. Med. Genet. A. 143: 301-303.
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. Schaefer, M.K., et al. 2007. Progressive motor neuronopathy: a critical role of the tubulin chaperone TBCE in axonal tubulin routing from the Golgi apparatus. J. Neurosci. 27: 8779-8789.

CHROMOSOMAL LOCATION

Genetic locus: TBCE (human) mapping to 1q42.3; Tbce (mouse) mapping to 13 A1.

SOURCE

TBCE (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TBCE of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-103897 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TBCE (E-16) is recommended for detection of TBCE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other TBC family members.

TBCE (E-16) is also recommended for detection of TBCE in additional species, including equine and canine.

Suitable for use as control antibody for TBCE siRNA (h): sc-78922, TBCE siRNA (m): sc-106600, TBCE shRNA Plasmid (h): sc-78922-SH, TBCE shRNA Plasmid (m): sc-106600-SH, TBCE shRNA (h) Lentiviral Particles: sc-78922-V and TBCE shRNA (m) Lentiviral Particles: sc-106600-V.

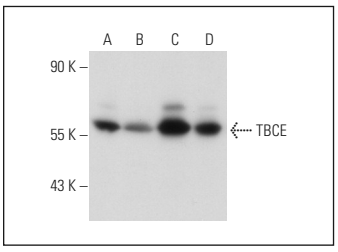
Molecular Weight of TBCE: 59 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, IMR-32 cell lysate: sc-2409 or WI-38 whole cell lysate: sc-364260.

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



TBCE (E-16): sc-103897. Western blot analysis of TBCE expression in HEK293 (**A**), Raji (**B**), WI-38 (**C**) and IMR-32 (**D**) whole cell lysates.

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.