

TCP-1 β (F39 P7 F11): sc-47717

BACKGROUND

The protein TCP-1 (t complex polypeptide 1) is a subunit of the hetero-oligomeric complex CCT (chaperonin containing TCP-1) present in the eukaryotic cytosol. The CCT of eukaryotic cytosol is composed of eight different subunit species, TCP-1 α , β , γ , δ , ϵ , ζ , η and θ , each encoded by a different gene. Two ζ subunits have been described: TCP-1 ζ (also designated TCP-1 ζ 1) and TCP-1 ζ 2. TCP-1 subunits are proposed to have independent functions in folding its *in vivo* substrates, the Actins and Tubulins. TCP-1 was first identified in the mouse as relevant for tail-less and embryonic lethal phenotypes. Sequences homologous to TCP-1 have been isolated in several other species, and the yeast TCP-1 has been shown to encode a molecular chaperone for Actin and Tubulin. TCP-1 found in mammalian cells and yeast plays an important role in the folding of cytosolic proteins.

REFERENCES

- Ahnert, V., et al. 1996. Cucumber T-complex protein. Molecular cloning, bacterial expression and characterization within a 22-S cytosolic complex in cotyledons and hypocotyls. *Eur. J. Biochem.* 235: 114-119.
- Iijima, M., et al. 1998. A *Dictyostelium discoideum* homologue to TCP-1 is essential for growth and development. *Gene* 213: 101-106.
- Ritco-Vonsovici, M. and Willison, K.R. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. *J. Mol. Biol.* 304: 81-98.

CHROMOSOMAL LOCATION

Genetic locus: CCT2 (human) mapping to 12q15; Cct2 (mouse) mapping to 10 D2.

SOURCE

TCP-1 β (F39 P7 F11) is a mouse monoclonal antibody raised against ovalbumin-conjugate synthetic peptide RKRVPDHHPC.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TCP-1 β (F39 P7 F11) is recommended for detection of TCP-1 β of mouse, rat, human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:100, dilution range), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TCP-1 β siRNA (h): sc-36622, TCP-1 β siRNA (m): sc-36625, TCP-1 β shRNA Plasmid (h): sc-36622-SH, TCP-1 β shRNA Plasmid (m): sc-36625-SH, TCP-1 β shRNA (h) Lentiviral Particles: sc-36622-V and TCP-1 β shRNA (m) Lentiviral Particles: sc-36625-V.

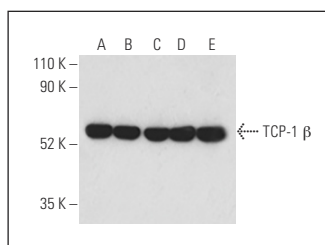
Molecular Weight of TCP-1 β : 50 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, HEL 92.1.7 cell lysate: sc-2270 or F9 cell lysate: sc-2245.

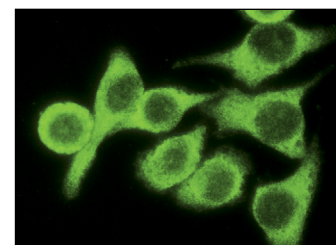
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TCP-1 β (F39 P7 F11): sc-47717. Western blot analysis of TCP-1 β expression in HEL 92.1.7 (A), Caki-1 (B), ZR-75-1 (C), F9 (D) and NIH/3T3 (E) whole cell lysates. Detection reagent used: m-IgG_{2a} BP-HRP: sc-542731.



TCP-1 β (F39 P7 F11): sc-47717. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Song, H. and Sokolov, M. 2009. Analysis of protein expression and compartmentalization in retinal neurons using serial tangential sectioning of the retina. *J. Proteome Res.* 8: 346-351.
- Tashiro, E., et al. 2013. Prefoldin protects neuronal cells from polyglutamine toxicity by preventing aggregation formation. *J. Biol. Chem.* 288: 19958-19972.
- Gao, X., et al. 2013. Splice isoforms of phosducin-like protein control the expression of heterotrimeric G proteins. *J. Biol. Chem.* 288: 25760-25768.

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.