

TCP-1 ϵ (D-6): sc-374554

The Power to Question

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_1 (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., et al. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. *J. Mol. Biol.* 304: 81-98.

CHROMOSOMAL LOCATION

Genetic locus: CCT5 (human) mapping to 5p15.2; Cct5 (mouse) mapping to 15 B2.

SOURCE

TCP-1 ϵ (D-6) is a mouse monoclonal antibody raised against amino acids 111-390 mapping within an internal region of TCP-1 ϵ of origin.

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 ϵ (D-6) is recommended for detection of TCP-1 ϵ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for TCP-1 ϵ siRNA (h): sc-43447, TCP-1 ϵ siRNA (m): sc-43448, TCP-1 ϵ shRNA Plasmid (h): sc-43447-SH, TCP-1 ϵ shRNA Plasmid (m): sc-43448-SH, TCP-1 ϵ shRNA (h) Lentiviral Particles: sc-43447-V and TCP-1 ϵ shRNA (m) Lentiviral Particles: sc-43448-V.

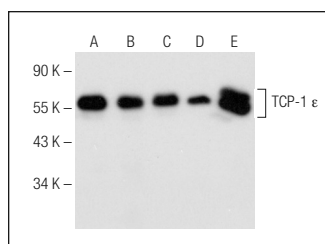
Molecular Weight of TCP-1 ϵ : 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Caki-1 cell lysate: sc-2224 or ES-2 cell lysate: sc-24674.

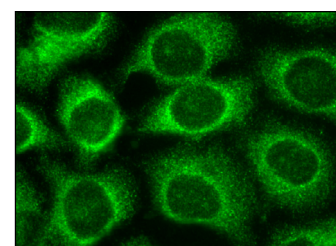
RECOMMENDED SUPPORT REAGENTS

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.

DATA



TCP-1 ϵ (D-6): sc-374554. Western blot analysis of TCP-1 ϵ expression in HeLa (A), ES-2 (B), Caki-1 (C) and F9 (D) whole cell lysates and rat testis tissue extract (E).



TCP-1 ϵ (D-6): sc-374554. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Freund, A., et al. 2014. Proteostatic control of telomerase function through TRiC-mediated folding of TCAB1. *Cell* 159: 1389-1403.
- Murn, J., et al. 2016. Recognition of distinct RNA motifs by the clustered CCHC zinc fingers of neuronal protein Unkempt. *Nat. Struct. Mol. Biol.* 23: 16-23.
- Kaisari, S., et al. 2017. Role of CCT chaperonin in the disassembly of mitotic checkpoint complexes. *Proc. Natl. Acad. Sci. USA* 114: 956-961.
- Bugnon Valdano, M., et al. 2021. Human papillomavirus infection requires the CCT chaperonin complex. *J. Virol.* 95: e01943-20.
- Liu, J., et al. 2021. Exploring the expression and prognostic value of the TCP1 ring complex in hepatocellular carcinoma and overexpressing its subunit 5 promotes HCC tumorigenesis. *Front. Oncol.* 11: 739660.

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.