

TCP-1 γ (F-3): sc-271336

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 that 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

1. 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.
2. Iijima, M., et al. 1998. A *Dictyostelium discoideum* homolog to TCP-1 is essential for growth and development. *Gene* 213: 101-106.
3. Ritco-Vonsovici, M., et al. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. *J. Mol. Biol.* 304: 81-98.
4. Hynes, G.M., et al. 2000. Individual subunits of the eukaryotic cytosolic chaperonin mediate interactions with binding sites located on subdomains of β -Actin. *J. Biol. Chem.* 275: 18985-18994.

CHROMOSOMAL LOCATION

Genetic locus: CCT3 (human) mapping to 1q22; Cct3 (mouse) mapping to 3 F1.

SOURCE

TCP-1 γ (F-3) is a mouse monoclonal antibody raised against amino acids 101-400 mapping within an internal region of TCP-1 γ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCP-1 γ (F-3) is available conjugated to agarose (sc-271336 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271336 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271336 PE), fluorescein (sc-271336 FITC), Alexa Fluor[®] 488 (sc-271336 AF488), Alexa Fluor[®] 546 (sc-271336 AF546), Alexa Fluor[®] 594 (sc-271336 AF594) or Alexa Fluor[®] 647 (sc-271336 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271336 AF680) or Alexa Fluor[®] 790 (sc-271336 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

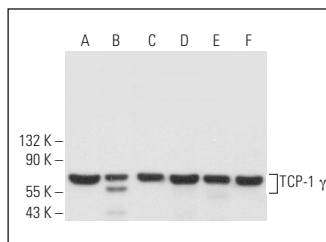
TCP-1 γ (F-3) is recommended for detection of TCP-1 γ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 γ siRNA (h): sc-36623, TCP-1 γ siRNA (m): sc-36624, TCP-1 γ shRNA Plasmid (h): sc-36623-SH, TCP-1 γ shRNA Plasmid (m): sc-36624-SH, TCP-1 γ shRNA (h) Lentiviral Particles: sc-36623-V and TCP-1 γ shRNA (m) Lentiviral Particles: sc-36624-V.

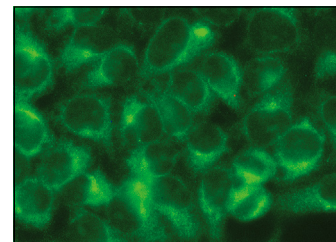
Molecular Weight of TCP-1 γ : 57 kDa.

Positive Controls: F9 cell lysate: sc-2245, 3T3-L1 cell lysate: sc-2243 or rat testis extract: sc-2400.

DATA



TCP-1 γ (F-3): sc-271336. Western blot analysis of TCP-1 γ expression in F9 (A), 3T3-L1 (B), C3H/10T1/2 (C), RT-4 (D) and T24 (E) whole cell lysates and rat testis tissue extract (F).



TCP-1 γ (F-3): sc-271336. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2019. CCT3 acts upstream of YAP and TFPC2 as a potential target and tumour biomarker in liver cancer. *Cell Death Dis.* 10: 644.
2. Vonk, W.I.M., et al. 2020. Differentiation drives widespread rewiring of the neural stem cell chaperone network. *Mol. Cell* 78: 329-345.e9.
3. Bugnon Valdano, M., et al. 2021. Human papillomavirus infection requires the CCT chaperonin complex. *J. Virol.* 95: e01943-20.
4. Betancourt Moreira, K., et al. 2023. A hierarchical assembly pathway directs the unique subunit arrangement of TRiC/CCT. *Mol. Cell* 83: 3123-3139.e8.

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.