SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 ζ (F-4): sc-514466

SANTA CRUZ BIOTECHNOLOGY

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 (also designated TCP-1 ζ1) and TCP-1 ζ2. 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.

CHROMOSOMAL LOCATION

Genetic locus: CCT6A (human) mapping to 7p11.2, CCT6B (human) mapping to 17q12; Cct6b (mouse) mapping to 11 C, Cct6a (mouse) mapping to 5 G1.3.

SOURCE

TCP-1 ζ (F-4) is a mouse monoclonal antibody raised against amino acids 342-531 mapping at the C-terminus of TCP-1 ζ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCP-1 ζ (F-4) is available conjugated to agarose (sc-514466 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514466 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514466 PE), fluorescein (sc-514466 FITC), Alexa Fluor® 488 (sc-514466 AF488), Alexa Fluor® 546 (sc-514466 AF546), Alexa Fluor® 594 (sc-514466 AF594) or Alexa Fluor® 647 (sc-514466 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514466 AF680) or Alexa Fluor® 790 (sc-514466 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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 ζ (F-4) is recommended for detection of TCP-1 ζ and TCP-1 ζ2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

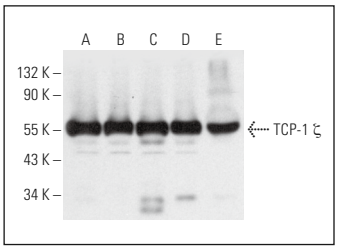
Molecular Weight of TCP-1 ζ: 60 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

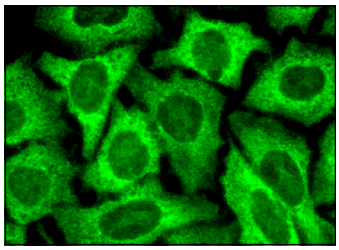
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 ζ (F-4): sc-514466. Western blot analysis of TCP-1 ζ expression in HeLa (**A**), Caki-1 (**B**), NTERA-2 cl.D1 (**C**) and Hep G2 (**D**) whole cell lysates and human testis tissue extract (**E**).



TCP-1 ζ (F-4): sc-514466. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Collier, M.P., et al. 2021. Native mass spectrometry analyses of chaperonin complex TRiC/CCT reveal subunit N-terminal processing and re-association patterns. Sci. Rep. 11: 13084.
2. Suarez-Artiles, L., et al. 2022. Pan-claudin family interactome analysis reveals shared and specific interactions. Cell Rep. 41: 111588.
3. Yu, T., et al. 2023. THOC3 interacts with YBX1 to promote lung squamous cell carcinoma progression through PFKFB4 mRNA modification. Cell Death Dis. 14: 475.
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.