SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 δ (H-1): sc-137092

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The protein TCP-1 (t complex polypeptide 1) is a subunit of the heterooligomeric 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: CCT4 (human) mapping to 2p15; Cct4 (mouse) mapping to 11 A3.2.

SOURCE

TCP-1 δ (H-1) is a mouse monoclonal antibody raised against amino acids 176-400 mapping within an internal region of TCP-1 δ 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 δ (H-1) is available conjugated to agarose (sc-137092 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137092 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137092 PE), fluorescein (sc-137092 FITC), Alexa Fluor® 488 (sc-137092 AF488), Alexa Fluor® 546 (sc-137092 AF546), Alexa Fluor® 594 (sc-137092 AF594) or Alexa Fluor® 647 (sc-137092 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137092 AF680) or Alexa Fluor® 790 (sc-137092 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TCP-1 δ (H-1) is recommended for detection of TCP-1 δ 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), immunohistochemistry (including paraffin-embedded sections) (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 δ siRNA (h): sc-43445, TCP-1 δ siRNA (m): sc-43446, TCP-1 δ shRNA Plasmid (h): sc-43445-SH, TCP-1 δ shRNA Plasmid (m): sc-43446-SH, TCP-1 δ shRNA (h) Lentiviral Particles: sc-43445-V and TCP-1 δ shRNA (m) Lentiviral Particles: sc-43446-V.

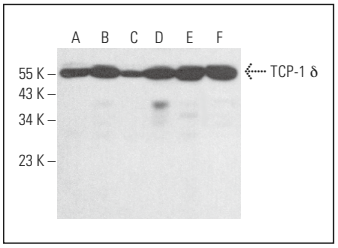
Molecular Weight of TCP-1 δ: 58 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, c4 whole cell lysate: sc-364186 or Neuro-2A whole cell lysate: sc-364185.

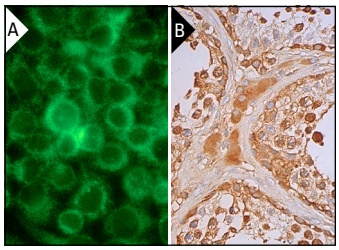
STORAGE

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

DATA



TCP-1 δ (H-1): sc-137092. Western blot analysis of TCP-1 δ expression in Hep G2 (**A**), c4 (**B**), Caki-1 (**C**), SH-SY5Y (**D**), Neuro-2A (**E**) and EOC 20 (**F**) whole cell lysates.



TCP-1 δ (H-1): sc-137092. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Slater, L.H., et al. 2013. CCT chaperonin complex is required for efficient delivery of anthrax toxin into the cytosol of host cells. Proc. Natl. Acad. Sci. USA 110: 9932-9937.
2. Freund, A., et al. 2014. Proteostatic control of telomerase function through TRiC-mediated folding of TCAB1. Cell 159: 1389-1403.
3. Goichon, A., et al. 2015. Enteral delivery of proteins enhances the expression of proteins involved in the cytoskeleton and protein biosynthesis in human duodenal mucosa. Am. J. Clin. Nutr. 102: 359-367.
4. Knowlton, J.J., et al. 2018. The TRiC chaperonin controls reovirus replication through outer-capsid folding. Nat. Microbiol. 3: 481-493.
5. Pines, A., et al. 2018. TRiC controls transcription resumption after UV damage by regulating Cockayne syndrome protein A. Nat. Commun. 9: 1040.
6. Sergeeva, O.A., et al. 2019. Co-expression of CCT subunits hints at TRiC assembly. Cell Stress Chaperones 24: 1055-1065.
7. Vonk, W.I.M., et al. 2020. Differentiation drives widespread rewiring of the neural stem cell chaperone network. Mol. Cell 78: 329-345.e9.
8. 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.
9. 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.