

TCP-1 δ (H-1): sc-137092

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 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.

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 μ g IgG₁ 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 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137092 HRP), 200 μ g/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 μ g/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 μ g/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 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), 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.

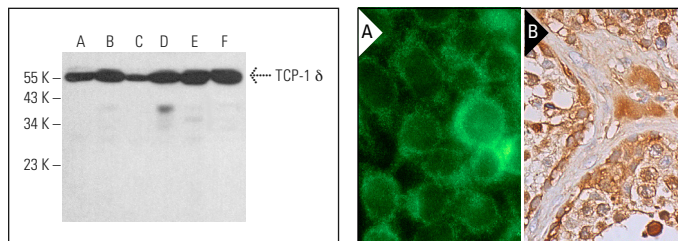
Molecular Weight of TCP-1 δ : 58 kDa.

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 2D (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

- 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.
- Freund, A., et al. 2014. Proteostatic control of telomerase function through TRiC-mediated folding of TCAB1. Cell 159: 1389-1403.
- 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.
- Knowlton, J.J., et al. 2018. The TRiC chaperonin controls reovirus replication through outer-capsid folding. Nat. Microbiol. 3: 481-493.
- Pines, A., et al. 2018. TRiC controls transcription resumption after UV damage by regulating Cockayne syndrome protein A. Nat. Commun. 9: 1040.
- Sergeeva, O.A., et al. 2019. Co-expression of CCT subunits hints at TRiC assembly. Cell Stress Chaperones 24: 1055-1065.
- Vonk, W.I.M., et al. 2020. Differentiation drives widespread rewiring of the neural stem cell chaperone network. Mol. Cell 78: 329-345.e9.
- 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.

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.