

TCP-1 ζ (A-15): sc-13896

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.

REFERENCES

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- 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.
- Hynes, G.M. and Willison, K.R. 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.
- Campos, E.G., et al. 2000. Cloning of the chaperonin T complex polypeptide 1 gene from *Schistosoma mansoni* and studies of its expression levels under heat shock and oxidative stress. *Parasitol. Res.* 86: 253-258.
- Yokota, S.I., et al. 2000. Upregulation of cytosolic chaperonin CCT subunits during recovery from chemical stress that causes accumulation of unfolded proteins. *Eur. J. Biochem.* 267: 1658-1664.

CHROMOSOMAL LOCATION

Genetic locus: CCT6A (human) mapping to 17q12; CCT6B (human) mapping to 7p11.2; Cct6a (mouse) mapping to 5 G1.3; Cct6b (mouse) mapping to 11 B5.

SOURCE

TCP-1 ζ (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TCP-1 ζ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-13896 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

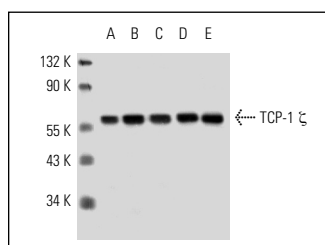
TCP-1 ζ (A-15) is recommended for detection of TCP-1 ζ and TCP-1 ζ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TCP-1 ζ (A-15) is also recommended for detection of TCP-1 ζ and TCP-1 ζ 2 in additional species, including equine, canine, bovine, porcine and avian.

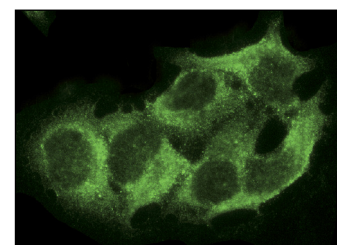
Molecular Weight of TCP-1 ζ : 60 kDa.

Positive Controls: F9 cell lysate: sc-2245, HeLa whole cell lysate: sc-2200 or Caki-1 cell lysate: sc-2224.

DATA



TCP-1 ζ (A-15): sc-13896. Western blot analysis of TCP-1 ζ expression in F9 (A), HeLa (B) and Caki-1 (C) whole cell lysates and mouse testis (D) and rat testis (E) tissue extracts.



TCP-1 ζ (A-15): sc-13896. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Kunisawa, J., et al. 2003. The group II chaperonin TRiC protects proteolytic intermediates from degradation in the MHC Class I antigen processing pathway. *Mol. Cell* 12: 565-576.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **TCP-1 ζ (F-4): sc-514466** or **TCP-1 ζ (F-12): sc-271734**, our highly recommended monoclonal alternatives to TCP-1 ζ (A-15).