

# TCP-1 $\zeta$ (K-21): sc-13897

## 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  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$ ,  $\zeta$ ,  $\eta$  and  $\theta$ , each encoded by a different gene. Two  $\zeta$  subunits have been described: TCP-1  $\zeta$  (also designated TCP-1  $\zeta$ 1) and TCP-1  $\zeta$ 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

- 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.
- Iijima, M., et al. 1998. A *Dictyostelium discoideum* homologue to TCP-1 is essential for growth and development. *Gene* 213: 101-106.

## 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 C.

## SOURCE

TCP-1  $\zeta$  (K-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TCP-1  $\zeta$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-13897 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TCP-1  $\zeta$  (K-21) is recommended for detection of TCP-1  $\zeta$  and, to a lesser extent, TCP-1  $\zeta$ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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  $\zeta$  (K-21) is also recommended for detection of TCP-1  $\zeta$  and, to a lesser extent, TCP-1  $\zeta$ 2 in additional species, including equine, canine, bovine, porcine and avian.

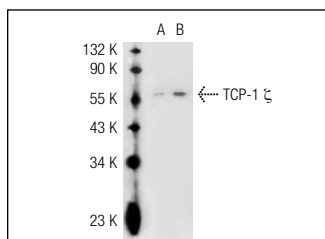
Molecular Weight of TCP-1  $\zeta$ : 60 kDa.

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

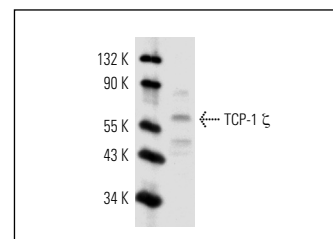
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



TCP-1  $\zeta$  (K-21): sc-13897. Western blot analysis of TCP-1  $\zeta$  expression in non-transfected: sc-117752 (A) and mouse TCP-1  $\zeta$  transfected: sc-123959 (B) 293T whole cell lysates.



TCP-1  $\zeta$  (K-21): sc-13897. Western blot analysis of TCP-1  $\zeta$  expression in LADMAC whole cell lysate.

## SELECT PRODUCT CITATIONS

- Grantham, J., et al. 2006. Substantial CCT activity is required for cell cycle progression and cytoskeletal organization in mammalian cells. *Exp. Cell Res.* 312: 2309-2324.
- Dun, M.D., et al. 2011. The chaperonin containing TCP1 complex (CCT/TRiC) is involved in mediating sperm-oocyte interaction. *J. Biol. Chem.* 286: 36875-36887.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try TCP-1  $\zeta$  (F-4): sc-514466 or TCP-1  $\zeta$  (F-12): sc-271734, our highly recommended monoclonal alternatives to TCP-1  $\zeta$  (K-21).