

# TCP-1 $\delta$ (D-15): sc-13880

## 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.
- 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  $\beta$ -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: CCT4 (human) mapping to 2p15; Cct4 (mouse) mapping to 11 A3.2.

## SOURCE

TCP-1  $\delta$  (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TCP-1  $\delta$  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-13880 P, (100  $\mu$ 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  $\delta$  (D-15) is recommended for detection of TCP-1  $\delta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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  $\delta$  (D-15) is also recommended for detection of TCP-1  $\delta$  in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for TCP-1  $\delta$  siRNA (h): sc-43445, TCP-1  $\delta$  siRNA (m): sc-43446, TCP-1  $\delta$  shRNA Plasmid (h): sc-43445-SH, TCP-1  $\delta$  shRNA Plasmid (m): sc-43446-SH, TCP-1  $\delta$  shRNA (h) Lentiviral Particles: sc-43445-V and TCP-1  $\delta$  shRNA (m) Lentiviral Particles: sc-43446-V.

Molecular Weight of TCP-1  $\delta$ : 58.1 kDa.

Positive Controls: mouse brain extract: sc-2253, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **TCP-1  $\delta$  (H-1): sc-137092**, our highly recommended monoclonal alternative to TCP-1  $\delta$  (D-15).