

# TCP-1 $\alpha$ (84a): sc-53453

## BACKGROUND

The protein TCP-1 (t-complex polypeptide 1) is a subunit of the hetero-oligomeric complex CCT (chaperonin containing TCP-1) present in the eukaryotic cytosol. The CCT of eukaryotic cytosol is composed of eight different subunit species that 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

- Willison, K., Lewis, V., Zuckerman, K.S., Cordell, J., Dean, C., Miller, K., Lyon, M. and Marsh, M. 1989. The t complex polypeptide 1 (TCP-1) is associated with the cytoplasmic aspect of Golgi membranes. *Cell* 57: 621-632.
- Harrison-Lavoie, K.J., Lewis, V.A., Hynes, G.M., Collison, K.S., Nutland, E. and Willison, K.R. 1993. A 102 kDa subunit of a Golgi-associated particle has homology to  $\beta$  subunits of trimeric G proteins. *EMBO J.* 12: 2847-2853.
- Ahnert, V., May, C., Gerke, R. and Kindl, H. 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., Shimizu, H., Tanaka, Y. and Urushihara, H. 1998. A *Dictyostelium discoideum* homologue to TCP-1 is essential for growth and development. *Gene* 213: 101-106.
- Ritco-Vonsovici, M. and Willison, K.R. 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. and Hamdan, F.F. 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., Yanagi, H., Yura, T. and Kubota, H. 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: TCP1 (human) mapping to 6q25.3; Tcp1 (mouse) mapping to 17 A1.

## SOURCE

TCP-1  $\alpha$  (84a) is a rat monoclonal antibody raised against the C-terminal half of full length TCP of murine origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TCP-1  $\alpha$  (84a) is recommended for detection of TCP-1  $\alpha$  of mouse, rat, human and hamster 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TCP-1  $\alpha$  siRNA (h): sc-36620, TCP-1  $\alpha$  siRNA (m): sc-36621, TCP-1  $\alpha$  shRNA Plasmid (h): sc-36620-SH, TCP-1  $\alpha$  shRNA Plasmid (m): sc-36621-SH, TCP-1  $\alpha$  shRNA (h) Lentiviral Particles: sc-36620-V and TCP-1  $\alpha$  shRNA (m) Lentiviral Particles: sc-36621-V.

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

Positive Controls: F9 cell lysate: sc-2245, mouse testis extract: sc-2405 or HeLa whole cell lysate: sc-2200.

## STORAGE

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

## PROTOCOLS

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