

# TCP-1 $\alpha$ (4E215): sc-58862

## 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, 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* homolog to Tcp-1 is essential for growth and development. *Gene* 213: 101-106.
- 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.
- Hynes, G.M., et al. 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.
- Ritco-Vonsovici, M., et al. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. *J. Mol. Biol.* 304: 81-98.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: Tcp1 (mouse) mapping to 17 A1.

## SOURCE

TCP-1  $\alpha$  (4E215) is a rat monoclonal antibody raised against purified recombinant TCP-1  $\alpha$  of mouse origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2c</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

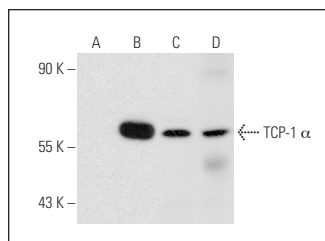
TCP-1  $\alpha$  (4E215) is recommended for detection of TCP-1  $\alpha$  of mouse, rat, bovine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with human HSP 60; may cross-react with the p102B' COP subunit of Golgi coatomer.

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

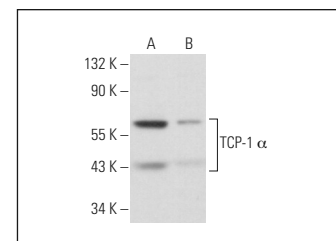
Molecular Weight of TCP-1  $\alpha$ : 60 kDa.

Positive Controls: TCP-1  $\alpha$  (m): 293T Lysate: sc-123956, F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

## DATA



TCP-1  $\alpha$  (4E215): sc-58862. Western blot analysis of TCP-1  $\alpha$  expression in non-transfected 293T: sc-117752 (A), mouse TCP-1  $\alpha$  transfected 293T: sc-123956 (B) and F9 (C) whole cell lysates and mouse testis tissue extract (D).



TCP-1  $\alpha$  (4E215): sc-58862. Western blot analysis of TCP-1  $\alpha$  expression in F9 (A) and BYDP (B) whole cell lysates.

## PROTOCOLS

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