

# TCP-1 $\epsilon$ (G-11): sc-515511

## 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  $\xi$ 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

1. 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.
2. Iijima, M., et al. 1998. A *Dictyostelium discoideum* homolog to TCP-1 is essential for growth and development. *Gene* 213: 101-106.
3. 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.
4. 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.
5. Ritco-Vonsovici, M., et al. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. *J. Mol. Biol.* 304: 81-98.
6. 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: CCT5 (human) mapping to 5p15.2; Cct5 (mouse) mapping to 15 B2.

## SOURCE

TCP-1  $\epsilon$  (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 292-315 within an internal region of TCP-1  $\epsilon$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-515511 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

TCP-1  $\epsilon$  (G-11) is recommended for detection of TCP-1  $\epsilon$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for TCP-1  $\epsilon$  siRNA (h): sc-43447, TCP-1  $\epsilon$  siRNA (m): sc-43448, TCP-1  $\epsilon$  shRNA Plasmid (h): sc-43447-SH, TCP-1  $\epsilon$  shRNA Plasmid (m): sc-43448-SH, TCP-1  $\epsilon$  shRNA (h) Lentiviral Particles: sc-43447-V and TCP-1  $\epsilon$  shRNA (m) Lentiviral Particles: sc-43448-V.

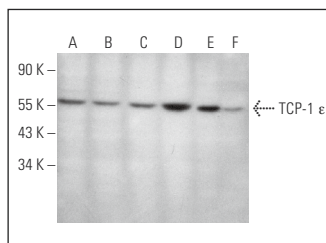
Molecular Weight of TCP-1  $\epsilon$ : 60 kDa.

Positive Controls: F9 cell lysate: sc-2245, ES-2 cell lysate: sc-24674 or MOLT-4 cell lysate: sc-2233.

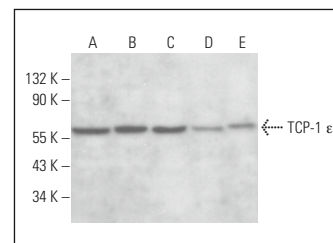
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



TCP-1  $\epsilon$  (G-11): sc-515511. Western blot analysis of TCP-1  $\epsilon$  expression in F9 (A), Caki-1 (B), HeLa (C), ES-2 (D) and MOLT-4 (E) whole cell lysates and human testis tissue extract (F).



TCP-1  $\epsilon$  (G-11): sc-515511. Western blot analysis of TCP-1  $\epsilon$  expression in PC-12 (A), MCF7 (B), 3T3-L1 (C), HL-60 (D) and U-251-MG (E) whole cell lysates.

## 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) for detailed protocols and support products.