

# TCP-1 $\theta$ (E-1): sc-377453

## 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  $\zeta_1$  (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.

## CHROMOSOMAL LOCATION

Genetic locus: CCT8 (human) mapping to 21q21.3; Cct8 (mouse) mapping to 16 C3.3.

## SOURCE

TCP-1  $\theta$  (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of TCP-1  $\theta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> 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-377453 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

TCP-1  $\theta$  (E-1) is recommended for detection of TCP-1  $\theta$  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), immunohistochemistry (including paraffin-embedded sections) (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  $\theta$  (E-1) is also recommended for detection of TCP-1  $\theta$  in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TCP-1  $\theta$  siRNA (h): sc-43451, TCP-1  $\theta$  siRNA (m): sc-43452, TCP-1  $\theta$  shRNA Plasmid (h): sc-43451-SH, TCP-1  $\theta$  shRNA Plasmid (m): sc-43452-SH, TCP-1  $\theta$  shRNA (h) Lentiviral Particles: sc-43451-V and TCP-1  $\theta$  shRNA (m) Lentiviral Particles: sc-43452-V.

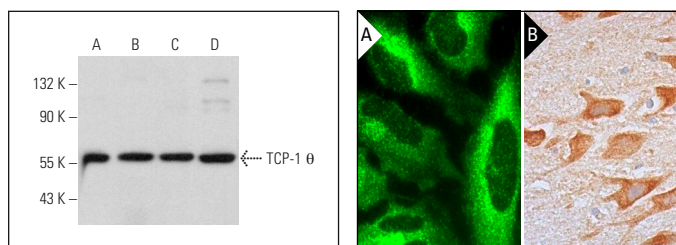
Molecular Weight of TCP-1  $\theta$ : 52-65 kDa.

Positive Controls: F9 cell lysate: sc-2245, mouse testis extract: sc-2405 or Jurkat whole cell lysate: sc-2204.

## 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



TCP-1  $\theta$  (E-1): sc-377453. Western blot analysis of TCP-1  $\theta$  expression in Jurkat (A) and F9 (B) whole cell lysates and mouse testis (C) and rat testis (D) tissue extracts.

TCP-1  $\theta$  (E-1): sc-377453. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells and glial cells (B).

## SELECT PRODUCT CITATIONS

1. Bugnon Valdano, M., et al. 2021. Human papillomavirus infection requires the CCT chaperonin complex. J. Virol. 95: e01943-20.

## 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.