SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 β (C-17): sc-13874

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

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* homologue to TCP-1 is essential for growth and development. Gene 213: 101-106.
3. Ritco-Vonsovici, M. and Willison, K.R. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human tubulins. J. Mol. Biol. 304: 81-98.
4. Hynes, G.M. and Willison, K.R. 2000. Individual subunits of the eukaryotic cytosolic chaperonin mediate interactions with binding sites located on subdomains of β Actin. J. Biol. Chem. 275: 18985-18994.
5. 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: CCT2 (human) mapping to 12q15; Cct2 (mouse) mapping to 10 D2.

SOURCE

TCP-1 β (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TCP-1 β of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13874 P, (100 µg 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.

RESEARCH USE

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

APPLICATIONS

TCP-1 β (C-17) is recommended for detection of TCP-1 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

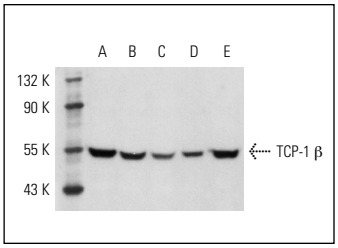
TCP-1 β (C-17) is also recommended for detection of TCP-1 β in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for TCP-1 β siRNA (h): sc-36622, TCP-1 β siRNA (m): sc-36625, TCP-1 β shRNA Plasmid (h): sc-36622-SH, TCP-1 β shRNA Plasmid (m): sc-36625-SH, TCP-1 β shRNA (h) Lentiviral Particles: sc-36622-V and TCP-1 β shRNA (m) Lentiviral Particles: sc-36625-V.

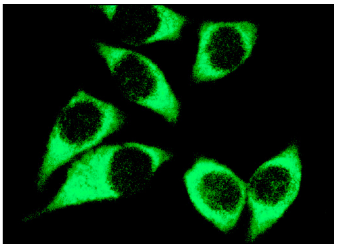
Molecular Weight of TCP-1 β: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ZR-75-1 cell lysate: sc-2241 or MCF7 whole cell lysate: sc-2206.

DATA



TCP-1 β (C-17): sc-13874. Western blot analysis of TCP-1 β expression in HeLa (**A**), ZR-75-1 (**B**) and MCF7 (**C**) whole cell lysates and mouse spleen (**D**) and mouse testis (**E**) extracts.



TCP-1 β (C-17): sc-13874. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Imai, Y., et al. 2003. A product of the human gene adjacent to parkin is a component of Lewy bodies and suppresses Pael receptor-induced cell death. J. Biol. Chem. 278: 51901-51910.
2. 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.
3. Mousnier, A., et al. 2007. von Hippel Lindau binding protein 1-mediated degradation of integrase affects HIV-1 gene expression at a postintegration step. Proc. Natl. Acad. Sci. USA 104: 13615-13620.