SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 θ (E-17): sc-13893

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α, β, γ, δ, ε, ζ, η and θ, each encoded by a different gene. Two ζ subunits have been described: TCP-1 ζ (also designated TCP-1 ζ1) and TCP-1 ζ2. 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., 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.
2. 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.
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.
6. 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: CCT8 (human) mapping to 21q21.3; Cct8 (mouse) mapping to 16 C3.3.

SOURCE

TCP-1 θ (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TCP-1 θ 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-13893 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TCP-1 θ (E-17) is recommended for detection of TCP-1 θ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 θ (E-17) is also recommended for detection of TCP-1 θ in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight of TCP-1 θ: 52-65 kDa.

Positive Controls: F9 cell lysate: sc-2245, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.