SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 η (C-9): sc-374617

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 iden-tified in the mouse as relevant for tailless 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 impor-tant 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., et al. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. J. Mol. Biol. 304: 81-98.
4. Hynes, G.M., et al. 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., et al. 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., 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.
7. Kafri, G., et al. 2001. Nested allosteric interactions in the cytoplasmic chaperonin containing TCP-1. Protein Sci. 10: 445-449.
8. Guenther, M.G., et al. 2002. Assembly of the SMRT-histone deacetylase 3 repression complex requires the TCP-1 RING complex. Genes Dev. 16: 3130-3135.

CHROMOSOMAL LOCATION

Genetic locus: CCT7 (human) mapping to 2p13.2; Cct7 (mouse) mapping to 6 C3.

SOURCE

TCP-1 η (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-29 at the N-terminus of TCP-1 η of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374617 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TCP-1 η (C-9) is recommended for detection of TCP-1 η of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

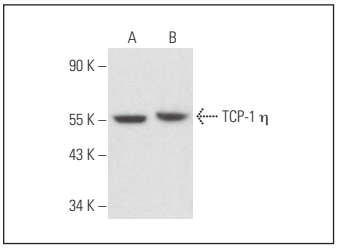
TCP-1 η (C-9) is also recommended for detection of TCP-1 η in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TCP-1 η siRNA (h): sc-43449, TCP-1 η siRNA (m): sc-43450, TCP-1 η shRNA Plasmid (h): sc-43449-SH, TCP-1 η shRNA Plasmid (m): sc-43450-SH, TCP-1 η shRNA (h) Lentiviral Particles: sc-43449-V and TCP-1 η shRNA (m) Lentiviral Particles: sc-43450-V.

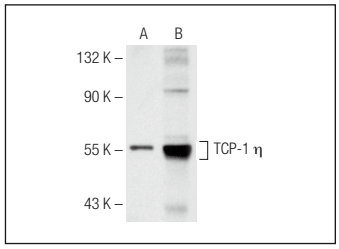
Molecular Weight of TCP-1 η: 58 kDa.

Positive Controls: T24 cell lysate: sc-2292, MOLT-4 cell lysate: sc-2233 or HeLa whole cell lysate: sc-2200.

DATA



TCP-1 η (C-9): sc-374617. Western blot analysis of TCP-1 η expression in K-562 (**A**) and MOLT-4 (**B**) whole cell lysates.



TCP-1 η (C-9): sc-374617. Western blot analysis of TCP-1 η expression in HeLa (**A**) and T24 (**B**) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.