SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 α (4E215): sc-58862

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., 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 β-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: Tcp1 (mouse) mapping to 17 A1.

SOURCE

TCP-1 α (4E215) is a rat monoclonal antibody raised against purified recombinant TCP-1 α of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2c} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

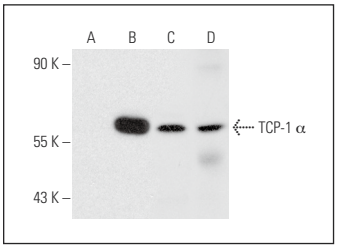
TCP-1 α (4E215) is recommended for detection of TCP-1 α of mouse, rat, bovine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with human HSP 60; may cross-react with the p102B' COP subunit of Golgi coatomer.

Suitable for use as control antibody for TCP-1 α siRNA (m): sc-36621, TCP-1 α shRNA Plasmid (m): sc-36621-SH and TCP-1 α shRNA (m) Lentiviral Particles: sc-36621-V.

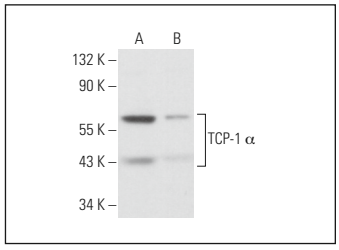
Molecular Weight of TCP-1 α: 60 kDa.

Positive Controls: TCP-1 α (m): 293T Lysate: sc-123956, F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

DATA



TCP-1 α (4E215): sc-58862. Western blot analysis of TCP-1 α expression in non-transfected 293T: sc-117752 (**A**), mouse TCP-1 α transfected 293T: sc-123956 (**B**) and F9 (**C**) whole cell lysates and mouse testis tissue extract (**D**).



TCP-1 α (4E215): sc-58862. Western blot analysis of TCP-1 α expression in F9 (**A**) and BYDP (**B**) whole cell lysates.

PROTOCOLS

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