

TCP-1 β (D-8): sc-374152

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 ζ 1) and TCP-1 ζ 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 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 important role in the folding of cytosolic proteins.

REFERENCES

- 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.
- Iijima, M., et al. 1998. A *Dictyostelium discoideum* homologue to TCP-1 is essential for growth and development. *Gene* 213: 101-106.
- Ritco-Vonsovici, M. and Willison, K.R. 2000. Defining the eukaryotic cytosolic chaperonin-binding sites in human Tubulins. *J. Mol. Biol.* 304: 81-98.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: CCT2 (human) mapping to 12q15; Cct2 (mouse) mapping to 10 D2.

SOURCE

TCP-1 β (D-8) is a mouse monoclonal antibody raised against amino acids 456-535 mapping at the C-terminus of TCP-1 β of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCP-1 β (D-8) is available conjugated to agarose (sc-374152 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374152 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374152 PE), fluorescein (sc-374152 FITC), Alexa Fluor[®] 488 (sc-374152 AF488), Alexa Fluor[®] 546 (sc-374152 AF546), Alexa Fluor[®] 594 (sc-374152 AF594) or Alexa Fluor[®] 647 (sc-374152 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374152 AF680) or Alexa Fluor[®] 790 (sc-374152 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

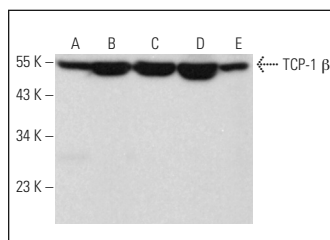
TCP-1 β (D-8) is recommended for detection of TCP-1 β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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).

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.

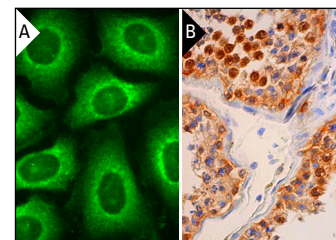
Molecular Weight of TCP-1 β : 50 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, NIH/3T3 whole cell lysate: sc-2210 or ZR-75-1 cell lysate: sc-2241.

DATA



TCP-1 β (D-8): sc-374152. Western blot analysis of TCP-1 β expression in ZR-75-1 (A), SK-BR-3 (B) and NIH/3T3 (C) whole cell lysates and human testis (D) and rat breast (E) tissue extracts.



TCP-1 β (D-8): sc-374152. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts (B).

SELECT PRODUCT CITATIONS

- Bugnon Valdano, M., et al. 2021. Human papillomavirus infection requires the CCT chaperonin complex. *J. Virol.* 95: e01943-20.
- Wang, J.Z., et al. 2022. Up-regulated YB-1 protein promotes glioblastoma growth through an YB-1/CCT4/mLST8/mTOR pathway. *J. Clin. Invest.* 132: e146536.
- Suarez-Artiles, L., et al. 2022. Pan-claudin family interactome analysis reveals shared and specific interactions. *Cell Rep.* 41: 111588.
- Papaccio, F., et al. 2023. "Proteotranscriptomic analysis of advanced colorectal cancer patient derived organoids for drug sensitivity prediction." *J. Exp. Clin. Cancer Res.* 42: 8.

RESEARCH USE

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

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