

TCP-1 θ (E-7): sc-377261

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 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

- 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.

CHROMOSOMAL LOCATION

Genetic locus: CCT8 (human) mapping to 21q21.3; Cct8 (mouse) mapping to 16 C3.3.

SOURCE

TCP-1 θ (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of TCP-1 θ of human origin.

PRODUCT

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

TCP-1 θ (E-7) is available conjugated to agarose (sc-377261 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377261 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377261 PE), fluorescein (sc-377261 FITC), Alexa Fluor[®] 488 (sc-377261 AF488), Alexa Fluor[®] 546 (sc-377261 AF546), Alexa Fluor[®] 594 (sc-377261 AF594) or Alexa Fluor[®] 647 (sc-377261 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377261 AF680) or Alexa Fluor[®] 790 (sc-377261 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377261 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 θ (E-7) is recommended for detection of TCP-1 θ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

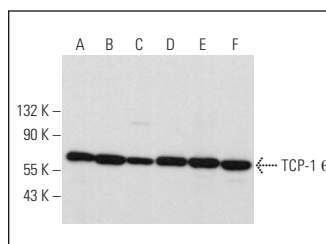
TCP-1 θ (E-7) is also recommended for detection of TCP-1 θ in additional species, including equine, canine, bovine, porcine and avian.

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.

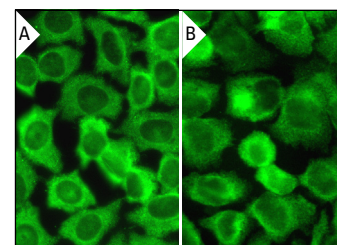
Molecular Weight of TCP-1 θ : 52-65 kDa.

Positive Controls: F9 cell lysate: sc-2245, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

DATA



TCP-1 θ (E-7): sc-377261. Western blot analysis of TCP-1 θ expression in HeLa (A), Jurkat (B), A-431 (C) and F9 (D) whole cell lysates and mouse testis (E) and rat testis (F) tissue extracts.



TCP-1 θ (E-7): sc-377261. Immunofluorescence staining of methanol-fixed HeLa (A) and A-431 (B) cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Spillman, N.J., et al. 2017. The chaperonin TRiC forms an oligomeric complex in the malaria parasite cytosol. *Cell. Microbiol.* 19: 10.1111/cmi.12719.
- McClatchy, D.B., et al. 2020. Quantitative analysis of global protein stability rates in tissues. *Sci. Rep.* 10: 15983.
- Kasahara, Y., et al. 2021. Primate-specific POTE-Actin gene could play a role in human folliculogenesis by controlling the proliferation of granulosa cells. *Cell Death Discov.* 7: 186.
- Collier, M.P., et al. 2021. Native mass spectrometry analyses of chaperonin complex TRiC/CCT reveal subunit N-terminal processing and re-association patterns. *Sci. Rep.* 11: 13084.
- 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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