SANTA CRUZ BIOTECHNOLOGY, INC.

TCP-1 α (B-3): sc-374088

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.

CHROMOSOMAL LOCATION

Genetic locus: TCP1 (human) mapping to 6q25.3; Tcp1 (mouse) mapping to 17 A1.

SOURCE

TCP-1 α (B-3) is a mouse monoclonal antibody raised against amino acids 416-525 mapping near the C-terminus of TCP-1 α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCP-1 α (B-3) is available conjugated to agarose (sc-374088 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374088 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374088 PE), fluorescein (sc-374088 FITC), Alexa Fluor® 488 (sc-374088 AF488), Alexa Fluor® 546 (sc-374088 AF546), Alexa Fluor® 594 (sc-374088 AF594) or Alexa Fluor® 647 (sc-374088 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374088 AF680) or Alexa Fluor® 790 (sc-374088 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

TCP-1 α (B-3) is recommended for detection of TCP-1 α 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), 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 α siRNA (h): sc-36620, TCP-1 α siRNA (m): sc-36621, TCP-1 α shRNA Plasmid (h): sc-36620-SH, TCP-1 α shRNA Plasmid (m): sc-36621-SH, TCP-1 α shRNA (h) Lentiviral Particles: sc-36620-V and TCP-1 α shRNA (m) Lentiviral Particles: sc-36621-V.

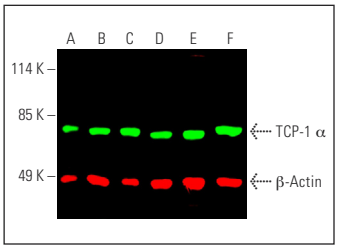
Molecular Weight of TCP-1 α: 60 kDa.

Positive Controls: U-937 cell lysate: sc-2239, ECV304 cell lysate: sc-2269 or HEK293T whole cell lysate: sc-45137.

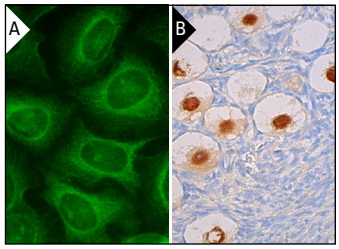
STORAGE

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

DATA



Simultaneous direct near-infrared western blot analysis of TCP-1 α expression, detected with TCP-1 α (B-3) Alexa Fluor® 680: sc-374088 AF680 and β-Actin expression, detected with β-Actin (C4) Alexa Fluor® 790: sc-47778 AF790 in U-937 (**A**), ECV304 (**B**), HEK293T (**C**), F9 (**D**) and BYDP (**E**) whole cell lysates and rat testis tissue extract (**F**). Blocked with UltraCruz® Blocking Reagent: sc-516214.



TCP-1 α (B-3): sc-374088. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of oocytes (**B**).

SELECT PRODUCT CITATIONS

1. Maier, M.Y., et al. 2018. Identification of d-amino acid oxidase and propiverine interaction partners and their potential role in the propiverine-mediated nephropathy. Chem. Biol. Interact. 281: 69-80.
2. Vonk, W.I.M., et al. 2020. Differentiation drives widespread rewiring of the neural stem cell chaperone network. Mol. Cell 78: 329-345.e9.
3. 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.
4. 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.
5. Scalia, F., et al. 2022. Muscle histopathological abnormalities in a patient with a CCT5 mutation predicted to affect the apical domain of the chaperonin subunit. Front. Mol. Biosci. 9: 887336.
6. 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.

PROTOCOLS

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