## SANTA CRUZ BIOTECHNOLOGY, INC.

# TCP-1 α (B-3): sc-374088



#### 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  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$ ,  $\zeta$ ,  $\eta$  and  $\theta$ , each encoded by a different gene. Two  $\zeta$  subunits have been described: TCP-1  $\zeta$  (also designated TCP-1  $\zeta$ 1) and TCP-1  $\zeta$ 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 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  $\alpha$  (B-3) is a mouse monoclonal antibody raised against amino acids 416-525 mapping near the C-terminus of TCP-1  $\alpha$  of human origin.

#### PRODUCT

Each vial contains 200  $\mu g \; lgG_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCP-1  $\alpha$  (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<sup>®</sup> 488 (sc-374088 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374088 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374088 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374088 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374088 AF680) or Alexa Fluor<sup>®</sup> 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  $\alpha$  (B-3) is recommended for detection of TCP-1  $\alpha$  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  $\alpha$  siRNA (h): sc-36620, TCP-1  $\alpha$  siRNA (m): sc-36621, TCP-1  $\alpha$  shRNA Plasmid (h): sc-36620-SH, TCP-1  $\alpha$  shRNA Plasmid (m): sc-36621-SH, TCP-1  $\alpha$  shRNA (h) Lentiviral Particles: sc-36620-V and TCP-1  $\alpha$  shRNA (m) Lentiviral Particles: sc-36621-V.

Molecular Weight of TCP-1  $\alpha$ : 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  $\alpha$  expression, detected with TCP-1  $\alpha$  (B-3) Alexa Fluor® 680: sc-374088 AF680 and  $\beta$ -Actin expression, detected with B-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-516Z14.

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

#### **SELECT PRODUCT CITATIONS**

- Maier, M.Y., et al. 2018. Identification of d-amino acid oxidase and propiverine interaction partners and their potential role in the propiverinemediated nephropathy. Chem. Biol. Interact. 281: 69-80.
- Vonk, W.I.M., et al. 2020. Differentiation drives widespread rewiring of the neural stem cell chaperone network. Mol. Cell 78: 329-345.e9.
- 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.
- 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.
- 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.
- 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.