# SANTA CRUZ BIOTECHNOLOGY, INC.

# TCP-1 ε (G-3): sc-376188



# 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 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.

# **CHROMOSOMAL LOCATION**

Genetic locus: CCT5 (human) mapping to 5p15.2; Cct5 (mouse) mapping to 15 B2.

# SOURCE

TCP-1  $\epsilon$  (G-3) is a mouse monoclonal antibody raised against amino acids 111-390 mapping within an internal region of TCP-1  $\epsilon$  of human origin.

# PRODUCT

Each vial contains 200  $\mu g$  IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCP-1  $\varepsilon$  (G-3) is available conjugated to agarose (sc-376188 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376188 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376188 PE), fluorescein (sc-376188 FITC), Alexa Fluor<sup>®</sup> 488 (sc-376188 AF488), Alexa Fluor<sup>®</sup> 546 (sc-376188 AF546), Alexa Fluor<sup>®</sup> 594 (sc-376188 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-376188 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-376188 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-376188 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

# **APPLICATIONS**

TCP-1  $\varepsilon$  (G-3) is recommended for detection of TCP-1  $\varepsilon$  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  $\epsilon$  siRNA (h): sc-43447, TCP-1  $\epsilon$  siRNA (m): sc-43448, TCP-1  $\epsilon$  shRNA Plasmid (h): sc-43447-SH, TCP-1  $\epsilon$  shRNA Plasmid (m): sc-43448-SH, TCP-1  $\epsilon$  shRNA (h) Lentiviral Particles: sc-43447-V and TCP-1  $\epsilon$  shRNA (m) Lentiviral Particles: sc-43448-V.

Molecular Weight of TCP-1 ε: 60 kDa.

Positive Controls: BYDP whole cell lysate: sc-364368, F9 cell lysate: sc-2245 or HeLa whole cell lysate: sc-2200.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

#### DATA



Simultaneous direct near-infrared western blot analysis of TCP-1 ε expression, detected with TCP-1 ε (G-3) Alexa Fluor<sup>®</sup> 680: sc-376188 AF680 and GAPDH expression, detected with GAPDH (G-9) Alexa Fluor<sup>®</sup> 790: sc-365062 AF790 in Caki-1 (A), HeLa (B), MOLT-4 (C), Jurkat (D), F9 (E) and BYDP (F) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking



TCP-1 ¢ (G-3): sc-376188. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat testis tissue showing cytoplasmic staining of cells in seminiferous ducts (**B**).

## SELECT PRODUCT CITATIONS

- 1. McClatchy, D.B., et al. 2020. Quantitative analysis of global protein stability rates in tissues. Sci. Rep. 10: 15983.
- Pla-Prats, C., et al. 2023. Recognition of the CCT5 di-Glu degron by CRL4DCAF12 is dependent on TRiC assembly. EMBO J. 42: e112253.

#### **STORAGE**

Reagent: sc-516214.

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.

#### PROTOCOLS

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

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