SANTA CRUZ BIOTECHNOLOGY, INC.

trichoplein (G-2): sc-515025

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Trichoplein, also known as THCP (trichoplein keratin filament-binding protein) or mitostatin (mitochondrial protein with oncostatic activity), is a 498 amino acid protein that acts as a tumor suppressor which inhibits cell growth and has pro-apoptotic abilities during cell stress. Localizing to the cytoplasm, mitochondria and cell membrane, trichoplein is expressed at highest levels in breast epithelial cells, normal urothelial cells, skeletal muscle, liver, testis, heart and kidney. Trichoplein is also found in smooth muscle and endothelial cells, with low levels of expression in advanced bladder and breast carcinoma. Trichoplein interacts with Cytokeratin 5, 6, 8, 14, 16 and 18. A member of the THCP family, trichoplein is encoded by a gene that maps to human chromosome 12q24.11.

CHROMOSOMAL LOCATION

Genetic locus: TCHP (human) mapping to 12q24.11.

SOURCE

trichoplein (G-2) is a mouse monoclonal antibody raised against amino acids 94-201 mapping within an internal region of trichoplein 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.

trichoplein (G-2) is available conjugated to agarose (sc-515025 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515025 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515025 PE), fluorescein (sc-515025 FITC), Alexa Fluor® 488 (sc-515025 AF488), Alexa Fluor® 546 (sc-515025 AF546), Alexa Fluor® 594 (sc-515025 AF594) or Alexa Fluor® 647 (sc-515025 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515025 AF680) or Alexa Fluor® 790 (sc-515025 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

trichoplein (G-2) is recommended for detection of trichoplein of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for trichoplein siRNA (h): sc-95954, trichoplein shRNA Plasmid (h): sc-95954-SH and trichoplein shRNA (h) Lentiviral Particles: sc-95954-V.

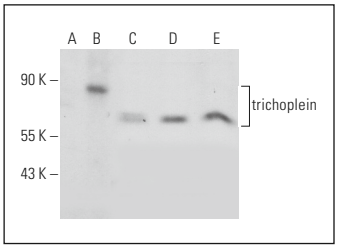
Molecular Weight of trichoplein: 61 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, trichoplein (h2): 293T Lysate: sc-171110 or CCRF-CEM cell lysate: sc-2225.

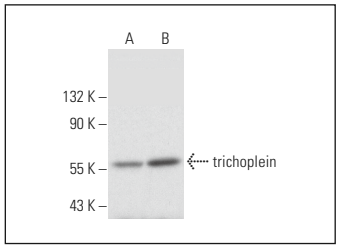
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



trichoplein (G-2): sc-515025. Western blot analysis of trichoplein expression in non-transfected 293T: sc-117752 (**A**), human trichoplein transfected 293T: sc-171110 (**B**), Caco-2 (**C**), A-431 (**D**) and U-251-MG (**E**) whole cell lysates.



trichoplein (G-2): sc-515025. Western blot analysis of trichoplein expression in K-562 (**A**) and CCRF-CEM (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kasahara, K., et al. 2018. EGF receptor kinase suppresses ciliogenesis through activation of USP8 deubiquitinase. Nat. Commun. 9: 758.
2. Hossain, D., et al. 2020. Requirement of NPHP5 in the hierarchical assembly of basal feet associated with basal bodies of primary cilia. Cell. Mol. Life Sci. 77: 195-212.
3. Lauriola, A., et al. 2020. Depletion of trichoplein (TpMs) causes chromosome mis-segregation, DNA damage and chromosome instability in cancer cells. Cancers 12: 993.
4. Martello, A., et al. 2020. Trichoplein binds PCM1 and controls endothelial cell function by regulating autophagy. EMBO Rep. 21: e48192.
5. Lauriola, A., et al. 2022. Telomere dysfunction is associated with altered DNA organization in trichoplein/TCHP/Mitostatin (TpMs) depleted cells. Biomedicines 10: 1602.

STORAGE

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

PROTOCOLS

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