

# TdTIF1 (G-2): sc-166296

## BACKGROUND

Terminal deoxynucleotidyltransferase (TdT) is a DNA polymerase which catalyzes the addition of deoxyribonucleotides onto the 3'-hydroxyl end of DNA primers without a DNA template. TdT activity can be positively or negatively regulated by association with certain TdT-interacting factors. TdTIF1 (terminal deoxynucleotidyltransferase-interacting factor 1), also called DNTTIP1 or TdIF1, localizes to the nucleus and functions to repress TdT activity. *In vitro*, TdTIF1 binds to the Pol  $\beta$ -like region of TdT, thus masking its DNA-binding region and blocking its access to the DNA. Expressed throughout the body with highest expression in the thymus, TdTIF1 contains N-terminal AT-hook motifs through which it binds to TdT. In addition to inhibiting TdT-DNA interaction, TdTIF1 can bind to TREP-132, a transcriptional co-activator of steroidogenic factor 1 (SF-1). When bound to SF-1, TdTIF1 enhances gene expression in steroid-producing cells.

## CHROMOSOMAL LOCATION

Genetic locus: DNTTIP1 (human) mapping to 20q13.12; Dnttip1 (mouse) mapping to 2 H3.

## SOURCE

TdTIF1 (G-2) is a mouse monoclonal antibody raised against amino acids 228-297 mapping near the C-terminus of TdTIF1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TdTIF1 (G-2) is available conjugated to agarose (sc-166296 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166296 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166296 PE), fluorescein (sc-166296 FITC), Alexa Fluor® 488 (sc-166296 AF488), Alexa Fluor® 546 (sc-166296 AF546), Alexa Fluor® 594 (sc-166296 AF594) or Alexa Fluor® 647 (sc-166296 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166296 AF680) or Alexa Fluor® 790 (sc-166296 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

TdTIF1 (G-2) is recommended for detection of TdTIF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 TdTIF1 siRNA (h): sc-76640, TdTIF1 siRNA (m): sc-154171, TdTIF1 shRNA Plasmid (h): sc-76640-SH, TdTIF1 shRNA Plasmid (m): sc-154171-SH, TdTIF1 shRNA (h) Lentiviral Particles: sc-76640-V and TdTIF1 shRNA (m) Lentiviral Particles: sc-154171-V.

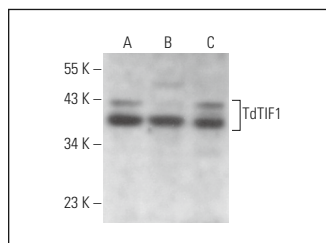
Molecular Weight of TdTIF1: 37 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

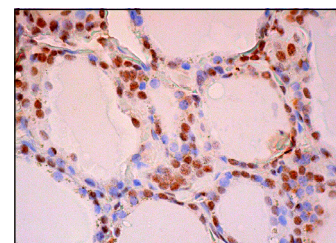
## RECOMMENDED SUPPORT REAGENTS

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™ 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® 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



TdTIF1 (G-2): sc-166296. Western blot analysis of TdTIF1 expression in Jurkat (A), PC-3 (B) and HeLa (C) whole cell lysates.



TdTIF1 (G-2): sc-166296. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Bantscheff, M., et al. 2011. Chemoproteomics profiling of HDAC inhibitors reveals selective targeting of HDAC complexes. *Nat. Biotechnol.* 29: 255-265.
2. Kitagawa, T., et al. 2022. AT-hook DNA-binding motif-containing protein one knockdown downregulates EWS-FLI1 transcriptional activity in Ewing's sarcoma cells. *PLoS ONE* 17: e0269077.

## STORAGE

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](http://www.scbt.com) for detailed protocols and support products.

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