SANTA CRUZ BIOTECHNOLOGY, INC.

TGIF (H-1): sc-17800

BACKGROUND

TGIF (for 5'-TG-3' interacting factor) was originally identified as a homeodomain protein that binds to a retinoid X receptor (RXR) responsive element, thereby inhibiting the binding of RXR to this site and repressing RXR-dependent transcriptional activation. TGIF is a member of the TALE (three amino acid loop extension) family of homeodomain-containing proteins. TGIF also binds to Smad2, to repress Smad2-Smad4-mediated transcription. Smad2, after phosphorylation mediated by TGFβ receptor, forms a complex with Smad4 and enters the nucleus to regulate transcription. The Smad2-Smad4 complex can interact with co-activators to form a transcriptional activation complex. Alternatively, the Smad2-Smad4 complex can interact with TGIF and HDACs to form a transcriptional repressor complex. Upon interaction with Smad2, TGIF is recruited to TGFβ-responsive genes, where it acts to repress TGFβ-induced transcription.

REFERENCES

1. Bertolino, E., et al. 1995. A novel homeobox protein which recognizes a TGT core and functionally interferes with a retinoid-responsive motif. J. Biol. Chem. 270: 31178-31188.
2. Baker, J.C., et al. 1996. A novel mesoderm inducer, Madr2, functions in the activin signal transduction pathway. Genes Dev. 10: 1880-1889.
3. Janknecht, R., et al. 1996. TGF-β-stimulated cooperation of smad proteins with the coactivators CBP/p300. Genes Dev. 12: 2114-2119.

CHROMOSOMAL LOCATION

Genetic locus: TGIF1 (human) mapping to 18p11.31; Tgif1 (mouse) mapping to 17 E1.3.

SOURCE

TGIF (H-1) is a mouse monoclonal antibody raised against amino acids 100-272 mapping at the C-terminus of TGIF of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-17800 X, 200 µg/0.1 ml.

TGIF (H-1) is available conjugated to agarose (sc-17800 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17800 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17800 PE), fluorescein (sc-17800 FITC), Alexa Fluor® 488 (sc-17800 AF488), Alexa Fluor® 546 (sc-17800 AF546), Alexa Fluor® 594 (sc-17800 AF594) or Alexa Fluor® 647 (sc-17800 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17800 AF680) or Alexa Fluor® 790 (sc-17800 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

TGIF (H-1) is recommended for detection of TGIF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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).

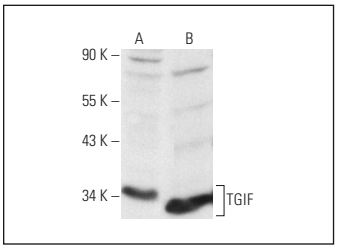
Suitable for use as control antibody for TGIF siRNA (h): sc-36659, TGIF siRNA (m): sc-36660, TGIF shRNA Plasmid (h): sc-36659-SH, TGIF shRNA Plasmid (m): sc-36660-SH, TGIF shRNA (h) Lentiviral Particles: sc-36659-V and TGIF shRNA (m) Lentiviral Particles: sc-36660-V.

TGIF (H-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

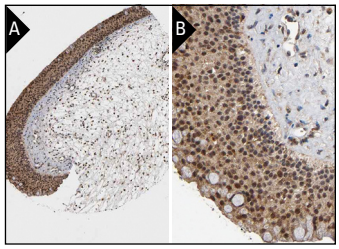
Molecular Weight of TGIF: 35 kDa.

Positive Controls: JAR cell lysates: sc-2276, KNRK whole cell lysate: sc-2214 or SW480 nuclear extract: sc-2155.

DATA



TGIF (H-1): sc-17800. Western blot analysis of TGIF expression in JAR (**A**) and KNRK (**B**) whole cell lysates.



TGIF (H-1): sc-17800. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharinx tissue showing nuclear and cytoplasmic staining of surface epithelial cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Dai, C., et al. 2004. Hepatocyte growth factor antagonizes the profibrotic action of TGF-β1 in mesangial cells by stabilizing Smad transcriptional corepressor TGIF. J. Am. Soc. Nephrol. 15: 1402-1412.
2. Pramfalk, C., et al. 2014. TG-interacting factor 1 acts as a transcriptional repressor of sterol O-acyltransferase 2. J. Lipid Res. 55: 709-717.
3. Gong, K., et al. 2016. Smad3-mSin3A-HDAC1 complex is required for TGF-β1-induced transcriptional inhibition of PPARγ in mouse cardiac fibroblasts. Cell. Physiol. Biochem. 40: 908-920.
4. Wang, Y., et al. 2018. Silencing TGIF suppresses migration, invasion and metastasis of MDA-MB-231 human breast cancer cells. Oncol. Rep. 39: 802-808.

RESEARCH USE

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