

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 TGF β 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 TGF β -responsive genes, where it acts to repress TGF β -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 μ g IgG₁ 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 μ g/0.1 ml.

TGIF (H-1) is available conjugated to agarose (sc-17800 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17800 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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 μ g per 100-500 μ 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).

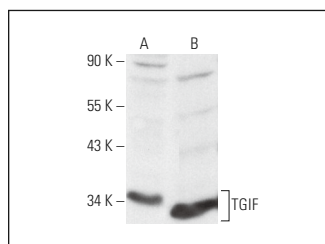
Suitable for use as control antibody for TGIF siRNA (h): sc-36659, TGIF siRNA (m): sc-36660, TGIF shRNA Plasmid (h): sc-36659-SH, TGIF shRNA Plasmid (m): sc-36660-SH, TGIF shRNA (h) Lentiviral Particles: sc-36659-V and TGIF shRNA (m) Lentiviral Particles: sc-36660-V.

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

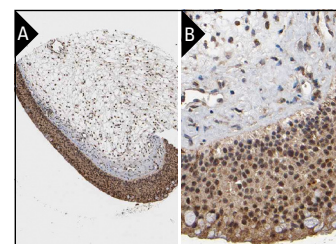
Molecular Weight of TGIF: 35 kDa.

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 nasopharynx 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- β 1 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- β 1-induced transcriptional inhibition of PPAR γ 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.