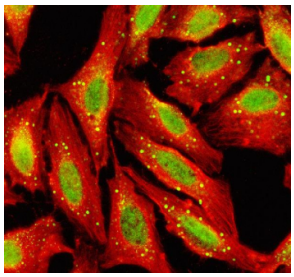
TGIF2 Antibody / TG-interacting factor 2 (FY13165)

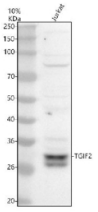
Catalog No.	Formulation	Size
FY13165	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

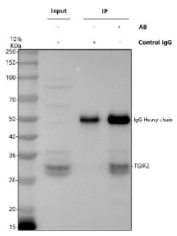
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9GZN2
Localization	Nucleus, Centrosome
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate ELISA : 0.1-0.5ug/ml
Limitations	This TGIF2 antibody is available for research use only.



Immunofluorescent staining of TGIF2 using anti-TGIF2 antibody (green) and anti-Beta Tubulin antibody (red). TGIF2 was detected in an immunocytochemical section of U2OS cells and shows the expected nucleus and centrosome staining. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-TGIF2 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of TGIF2 using anti-TGIF2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Jurkat whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-TGIF2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. TGIF2 antibody detects a doublet at ~26-30 kDa in Jurkat lysate. Although the theoretical mass is ~26-27 kDa, TGIF2 commonly shows a closely spaced pair consistent with differential phosphorylation and minor terminal processing.



Immunoprecipitating TGIF2 in Jurkat whole cell lysate. Western blot analysis of TGIF2 using anti-TGIF2 antibody. Lane 1: Jurkat whole cell lysates (30ug), Lane 2: Rabbit control IgG instead of anti-TGIF2 antibody in Jurkat whole cell lysate, Lane 3: anti-TGIF2 antibody (2ug) + Jurkat whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-TGIF2 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. TGIF2 antibody detects a doublet at ~26-30 kDa in Jurkat lysate. Although the theoretical mass is ~26-27 kDa, TGIF2 commonly shows a closely spaced pair consistent with differential phosphorylation and minor terminal processing.

Description

TGIF2 antibody detects TG-interacting factor 2, a homeodomain transcriptional repressor that modulates TGF-beta signaling and developmental gene expression. The UniProt recommended name is TG-interacting factor 2 (TGIF2). This nuclear protein belongs to the TALE (three-amino acid loop extension) class of homeobox proteins and functions as a DNA-binding corepressor that inhibits Smad-mediated transcription.

Functionally, TGIF2 antibody identifies a 237-amino-acid protein localized in the nucleus, where it binds DNA at consensus homeobox sites and interacts with transcriptional repressors such as CtBP and HDACs. TGIF2 represses TGF-beta target genes by blocking Smad binding to promoters, fine-tuning cellular differentiation, proliferation, and morphogenesis during embryonic development.

The TGIF2 gene is located on chromosome 20q11.2 and is expressed in embryonic tissues and adult organs including brain, kidney, and testis. TGIF2 acts as a developmental regulator controlling anterior-posterior patterning and organ formation through transcriptional repression mechanisms.

Pathologically, TGIF2 overexpression has been observed in several cancers, including ovarian and gastric tumors, where it promotes cell proliferation and epithelial-mesenchymal transition. Gene duplications or deletions involving TGIF2 have been associated with holoprosencephaly and craniofacial malformations. Research using TGIF2 antibody supports studies in transcriptional repression, developmental biology, and oncogenesis.

TGIF2 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect homeodomain transcription factors. NSJ Bioreagents provides TGIF2 antibody reagents optimized for developmental and transcriptional research applications.

Structurally, TG-interacting factor 2 contains a homeobox DNA-binding domain and a CtBP-binding motif that mediate its repressor activity. This antibody aids in analyzing TGIF2's role in gene regulation, morphogenesis, and signaling cross-talk.

Application Notes

Optimal dilution of the TGIF2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TGIF2 recombinant protein (Position: M1-Q237) was used as the immunogen for the TGIF2 antibody.

Storage

After reconstitution, the TGIF2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.