SANTA CRUZ BIOTECHNOLOGY, INC.

TIEG1 (95-D): sc-130408

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Originally isolated from osteoblastic cells, the TGFβ-inducible early gene-1 (TIEG1) is a Krüppel-like zinc-finger transcription factor-encoding gene which regulates cellular growth and differentiation. TIEG1 is regulated as an early response gene by TGFβ1. It is expressed in both acinar and ductular epithelial cells from exocrine pancreas and may serve as an early response gene in pancreatic cell lines. Further, overexpression of TIEG1 in TGFβ-sensitive epithelial cells induces apoptosis. TIEG1 and EGRα are expressed from alternate promoters of the same gene. Both are highly expressed in human fetal osteoblast cells. TIEG1 is additionally expressed at high levels in PBLs, spleen and colon, and at lower levels in thymus, small intestine, ovary, prostate and skeletal muscle. The nuclear TIEG2 protein, which shares significant homology with TIEG1, was originally isolated from globin-expressing human fetal erythroid cells. TIEG2 is also expressed in fetal liver. Overexpression of TIEG2 in cultured epithelial cells inhibits cellular proliferation. TIEG2 expression is upregulated by TGFβ1 and serum deprivation.

REFERENCES

1. Subramaniam, M., et al. 1995. Identification of a novel TGF-β-regulated gene encoding a putative zinc finger protein in human osteoblasts. Nucleic Acids Res. 23: 4907-4912.
2. Blok, L.J., et al. 1995. Characterization of an early growth response gene, which encodes a zinc finger transcription factor, potentially involved in cell cycle regulation. Mol. Endocrinol. 9: 1610-1620.

CHROMOSOMAL LOCATION

Genetic locus: KLF10 (human) mapping to 8q22.3; Klf10 (mouse) mapping to 15 B3.1.

SOURCE

TIEG1 (95-D) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 1-110 of TIEG1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TIEG1 (95-D) is recommended for detection of TIEG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TIEG1 siRNA (h): sc-45463, TIEG1 siRNA (m): sc-45464, TIEG1 shRNA Plasmid (h): sc-45463-SH, TIEG1 shRNA Plasmid (m): sc-45464-SH, TIEG1 shRNA (h) Lentiviral Particles: sc-45463-V and TIEG1 shRNA (m) Lentiviral Particles: sc-45464-V.

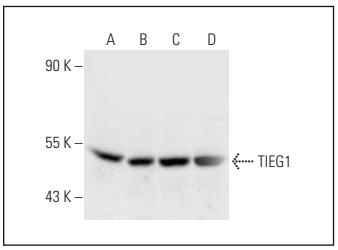
Molecular Weight of TIEG1: 52 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, SW480 nuclear extract: sc-2155 or Sol8 nuclear extract: sc-2157.

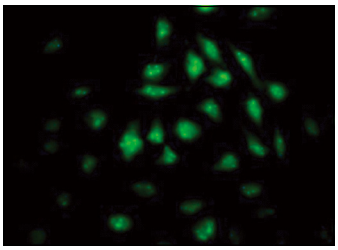
STORAGE

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

DATA



TIEG1 (95-D): sc-130408. Western blot analysis of TIEG1 expression in SW480 (**A**), Sol8 (**B**), RAW 264.7 (**C**) and Jurkat (**D**) nuclear extracts.



TIEG1 (95-D): sc-130408. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Jin, W., et al. 2012. TIEG1 inhibits breast cancer invasion and metastasis by inhibition of epidermal growth factor receptor (EGFR) transcription and the EGFR signaling pathway. Mol. Cell. Biol. 32: 50-63.
2. Zhang, W., et al. 2013. Klf10 inhibits IL-12p40 production in macrophage colony-stimulating factor-induced mouse bone marrow-derived macrophages. Eur. J. Immunol. 43: 258-269.
3. Papoutsoglou, P., et al. 2019. The TGFB2-AS1 lncRNA regulates TGF-β signaling by modulating corepressor activity. Cell Rep. 28: 3182-3198.
4. Zhou, J., et al. 2020. *Salvia miltiorrhiza* bunge exerts anti-oxidative effects through inhibiting KLF10 expression in vascular smooth muscle cells exposed to high glucose. J. Ethnopharmacol. 262: 113208.
5. Zhang, R., et al. 2021. Retinoblastoma cell-derived Twist protein promotes regulatory T cell development. Cancer Immunol. Immunother. 70: 1037-1048.
6. Wu, T., et al. 2021. Krüppel like factor 10 prevents intervertebral disc degeneration via TGF-β signaling pathway both *in vitro* and *in vivo.* J. Orthop. Translat. 29: 19-29.
7. Mo, L.H., et al. 2021. Epithelial cell-derived CD83 restores immune tolerance in the airway mucosa by inducing regulatory T-cell differentiation. Immunology 163: 310-322.
8. Yu, Y., et al. 2021. Intestinal epithelial cell-derived CD83 contributes to regulatory T-cell generation and inhibition of food allergy. J. Innate Immun. 13: 295-305.
9. Zhao, Z., et al. 2022. KLF10 upregulates ACSM3 via the PI3K/Akt signaling pathway to inhibit the malignant progression of melanoma. Oncol. Lett. 23: 175.
10. Lin, Y.M., et al. 2022. KLF10 functions as an independent prognosis factor for gastric cancer. Medicina 58: 711.

RESEARCH USE

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