

# TIEG1 (H-13): sc-23159

## BACKGROUND

Originally isolated from osteoblastic cells, the TGF $\beta$ -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 TGF $\beta$ 1. TIEG1 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 a TGF $\beta$ -sensitive epithelial cells induces apoptosis. TIEG1 and EGR $\alpha$  are expressed from alternate promoters of the same gene. TIEG1 and EGR $\alpha$  are both 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 TGF $\beta$ -1 and serum deprivation.

## REFERENCES

- Subramaniam, M., et al. 1995. Identification of a novel TGF $\beta$ -regulated gene encoding a putative zinc finger protein in human osteoblasts. *Nucleic Acids Res.* 23: 4907-4912.
- 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.
- Tachibana, I., et al. 1997. Overexpression of the TGF $\beta$ -regulated zinc finger encoding gene, TIEG, induces apoptosis in pancreatic epithelial cells. *J. Clin. Invest.* 99: 2365-2374.
- Fautsch, M.P., et al. 1998. Characterization of the mouse TGF $\beta$ -inducible early gene (TIEG): conservation of exon and transcriptional regulatory sequences with evidence of additional transcripts. *Mamm. Genome* 9: 838-842.
- Cook, T., et al. 1998. Molecular cloning and characterization of TIEG2 reveals a new subfamily of TGF $\beta$ -inducible Sp1-like zinc finger-encoding genes involved in the regulation of cell growth. *J. Biol. Chem.* 273: 25929-25936.

## CHROMOSOMAL LOCATION

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

## SOURCE

TIEG1 (H-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TIEG1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23159 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TIEG1 (H-13) 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), immunofluorescence (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 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.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Venuprasad, K., et al. 2008. The E3 ubiquitin ligase Itch regulates expression of transcription factor Foxp3 and airway inflammation by enhancing the function of transcription factor TIEG1. *Nat. Immunol.* 9: 245-253.
- Jiang, L., et al. 2009. Down-regulation of stathmin is required for TGF $\beta$  inducible early gene 1 induced growth inhibition of pancreatic cancer cells. *Cancer Lett.* 274: 101-108.
- Moriguchi, M., et al. 2010. Transforming growth factor  $\beta$  inducible apoptotic cascade in epithelial cells during rat molar tooth eruptions. *Anat. Sci. Int.* 85: 92-101.

## 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.



Try **TIEG1 (95-D): sc-130408**, our highly recommended monoclonal alternative to TIEG1 (H-13).