SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ3 (G-9): sc-166833

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transforming growth factor βs (TGFβs) were originally discovered due to their ability to promote anchorage-independent growth of rat NRK fibroblasts in the presence of TGFβ. TGFβ1, TGFβ2 and TGFβ3 are each synthesized as precursor proteins that are very similar in that each is cleaved to yield a 112 amino acid polypeptide that remains associated with the latent portion of the molecules. TGFβ3 mediates many intercellular interactions that occur during embryonic development, cell differentiation and epithelial homeostasis. TGFβ3 overexpresses in extramammary Paget's disease (EPD) and downregulates in Bowen's disease, indicating that its expression is a useful indicator of tumor activity. TGFβ3 levels strongly correlate with IGF-1 and osteocalcin levels in serum. Significant amounts of TGFβ3 circulation appear to be representative of TGFβ3 expression in bone and may in part be derived from bone. Glucocorticoids may block TGFβ production by modulating mRNA levels and c-Jun activity.

REFERENCES

1. Todaro, G.J., et al. 1980. Transforming growth factors produced by certain human tumor cells: polypeptides that interact with epidermal growth factor receptors. Proc. Natl. Acad. Sci. USA 77: 5258-5262.
2. Anzano, M.A., et al. 1983. Sarcoma growth factor from conditioned medium of virally transformed cells is composed of both type α and type β transforming growth factors. Proc. Natl. Acad. Sci. USA 80: 6264-6268.

CHROMOSOMAL LOCATION

Genetic locus: TGFB3 (human) mapping to 14q24.3; Tgfb3 (mouse) mapping to 12 D2.

SOURCE

TGFβ3 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 345-375 at the C-terminus of TGFβ3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGFβ3 (G-9) is available conjugated to agarose (sc-166833 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166833 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166833 PE), fluorescein (sc-166833 FITC), Alexa Fluor® 488 (sc-166833 AF488), Alexa Fluor® 546 (sc-166833 AF546), Alexa Fluor® 594 (sc-166833 AF594) or Alexa Fluor® 647 (sc-166833 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166833 AF680) or Alexa Fluor® 790 (sc-166833 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166833 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

TGFβ3 (G-9) is recommended for detection of precursor and mature TGFβ3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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).

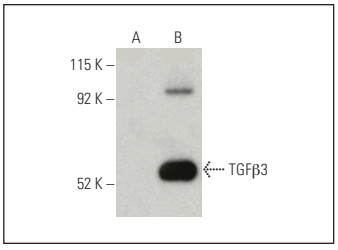
TGFβ3 (G-9) is also recommended for detection of precursor and mature TGFβ3 in additional species, including equine, porcine, canine and avian.

Suitable for use as control antibody for TGFβ3 siRNA (h): sc-39804, TGFβ3 siRNA (m): sc-39805, TGFβ3 shRNA Plasmid (h): sc-39804-SH, TGFβ3 shRNA Plasmid (m): sc-39805-SH, TGFβ3 shRNA (h) Lentiviral Particles: sc-39804-V and TGFβ3 shRNA (m) Lentiviral Particles: sc-39805-V.

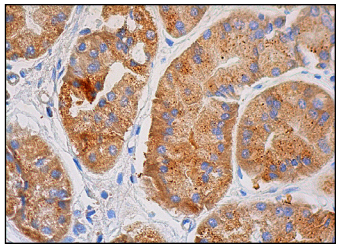
Molecular Weight of mature TGFβ3: 13 kDa.

Molecular Weight of TGFβ3 precursor: 47 kDa.

DATA



TGFβ3 (G-9): sc-166833. Western blot analysis of TGFβ3 expression in non-transfected: sc-117752 (**A**) and mouse TGFβ3 transfected: sc-124020 (**B**) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



TGFβ3 (G-9): sc-166833. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wang, H.W. et al. 2013. Effect of CLC-2 on the cytoskeleton in human trabecular meshwork cells. Mol. Med. Rep. 8: 1099-1105.
2. Buhrmann, C., et al. 2014. Curcumin suppresses crosstalk between colon cancer stem cells and stromal fibroblasts in the tumor microenvironment: potential role of EMT. PLoS ONE 9: e107514.
3. Li, B., et al. 2017. TGF-β2-induced ANGPTL4 expression promotes tumor progression and osteoclast differentiation in giant cell tumor of bone. Oncotarget 8: 54966-54977.
4. He, T., et al. 2021. Evaluation of the therapeutic efficacy of human bone marrow mesenchymal stem cells with COX-2 silence and TGF-β3 overexpression in rabbits with antigen-induced arthritis. Exp. Cell Res. 410: 112945.

RESEARCH USE

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