

TGFβ1 (TB21): sc-52893

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 TGFα. It is now realized that TGFβs mediate many cell-cell interactions that occur during embryonic development. Three TGFβs have been identified in mammals. 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. Biologically active TGFβ requires dimerization of the monomers (usually homodimers) and release of the latent peptide portion. Overall, the mature region of the TGFβ3 protein has approximately 80% identity to the mature region of both TGFβ1 and TGFβ2. However, the NH₂ terminals or precursor regions of their molecules share only 27% sequence identity.

CHROMOSOMAL LOCATION

Genetic locus: TGFβ1 (human) mapping to 19q13.2; Tgfb1 (mouse) mapping to 7 A3.

SOURCE

TGFβ1 (TB21) is a mouse monoclonal antibody raised against TGFβ1 from platelets of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TGFβ1 (TB21) is recommended for detection of natural and recombinant TGFβ1, both dimeric and monomeric natural forms under reducing and non reducing conditions 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)], 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for TGFβ1 siRNA (h): sc-37191, TGFβ1 siRNA (m): sc-37192, TGFβ1 shRNA Plasmid (h): sc-37191-SH, TGFβ1 shRNA Plasmid (m): sc-37192-SH, TGFβ1 shRNA (h) Lentiviral Particles: sc-37191-V and TGFβ1 shRNA (m) Lentiviral Particles: sc-37192-V.

Molecular Weight of TGFβ1 monomer: 13 kDa.

Molecular Weight of TGFβ1 dimer: 25 kDa.

Positive Controls: human adrenal extract: sc-363761, human platelet extract: sc-363773 or MCF7 whole cell lysate: sc-2206.

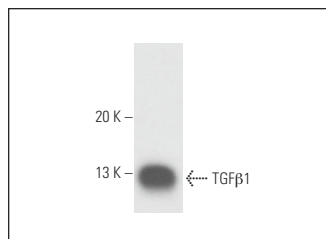
STORAGE

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

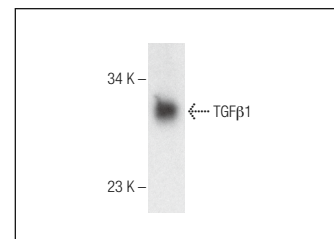
RESEARCH USE

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

DATA



TGFβ1 (TB21): sc-52893. Western blot analysis of TGFβ1 expression in platelet extract.



TGFβ1 (TB21): sc-52893. Western blot analysis of TGFβ1 expression in human adrenal tissue extract.

SELECT PRODUCT CITATIONS

- Herfs, M., et al. 2008. Transforming growth factor-β1-mediated SLUG and Snail transcription factor up-regulation reduces the density of Langerhans cells in epithelial metaplasia by affecting E-cadherin expression. *Am. J. Pathol.* 172: 1391-1402.
- Yu, L., et al. 2013. Exosomes with membrane-associated TGF-β1 from gene-modified dendritic cells inhibit murine EAE independently of MHC restriction. *Eur. J. Immunol.* 43: 2461-2472.
- Wang, L.P., et al. 2014. BMP-7 attenuates liver fibrosis via regulation of epidermal growth factor receptor. *Int. J. Clin. Exp. Pathol.* 7: 3537-3547.
- Ueda, K., et al. 2015. Possible dual role of decorin in abdominal aortic aneurysm. *PLoS ONE* 10: e0120689.
- Zhang, M., et al. 2016. Chymase inhibition protects diabetic rats from renal lesions. *Mol. Med. Rep.* 14: 121-128.
- Prata, L.O., et al. 2017. Original research: ACE2 activator associated with physical exercise potentiates the reduction of pulmonary fibrosis. *Exp. Biol. Med.* 242: 8-21.
- Shen, H. and Wang, Y. 2018. Activation of TGFβ1/Smad3 signaling pathway inhibits the development of ovarian follicle in polycystic ovary syndrome by promoting apoptosis of granulosa cells. *J. Cell. Physiol.* 234: 11976-11985.
- Chen, H., et al. 2019. WWP2 regulates pathological cardiac fibrosis by modulating SMAD2 signaling. *Nat. Commun.* 10: 3616.
- Zhang, M., et al. 2020. Highly bioavailable berberine formulation ameliorates diabetic nephropathy through the inhibition of glomerular mesangial matrix expansion and the activation of autophagy. *Eur. J. Pharmacol.* 873: 172955.



See **TGF β1 (3C11): sc-130348** for TGF β1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.