

# TGFβ1 (V): sc-146

## 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 NH<sub>2</sub> terminals or precursor regions of their molecules share only 27% sequence identity.

## CHROMOSOMAL LOCATION

Genetic locus: TGFβ1 (human) mapping to 19q13.2, TGFβ2 (human) mapping to 1q41; Tgfb1 (mouse) mapping to 7 A3, Tgfb2 (mouse) mapping to 1 H5.

## SOURCE

TGFβ1 (V) is available as either rabbit (sc-146) or goat (sc-146-G) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of TGFβ1 of human origin.

## PRODUCT

Each vial contains either 100 μg (sc-146) or 200 μg (sc-146-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-146 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA); as agarose (sc-146 AC) conjugate for immunoprecipitation, 500 μg/0.25 ml agarose in 1 ml; and as HRP conjugate for Western blotting, sc-146 HRP, 200 μg/1 ml.

## APPLICATIONS

TGFβ1 (V) is recommended for detection of precursor and mature TGFβ1, and to a lesser extent, TGFβ2 of mouse, rat, human and *Xenopus laevis* 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with latency associated peptide.

TGFβ1 (V) is also recommended for detection of precursor and mature TGFβ1 and TGFβ2 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of TGFβ1 monomer: 13 kDa.

Molecular Weight of TGFβ1 dimer: 25 kDa.

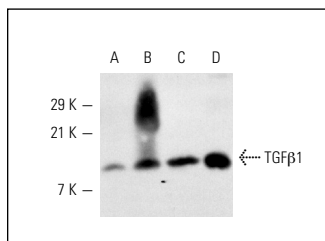
## STORAGE

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

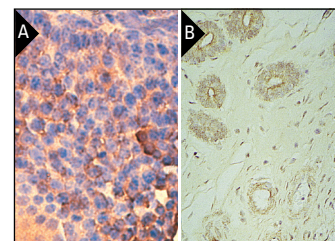
## RESEARCH USE

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

## DATA



TGFβ1 (V): sc-146. Western blot analysis of TGFβ1 expression in rat adrenal (A) and mouse uterus (B) extracts and MCF7 (C) and T-47D (D) whole cell lysates.



TGFβ1 (V): sc-146. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse ovary tissue showing extracellular localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded porcine uterus tissue. Kindly provided by Laurie A. Jaeger (B).

## SELECT PRODUCT CITATIONS

1. Mozes, M.M., et al. 1999. Isoform specificity of commercially-available anti-TGF-β antibodies. *J. Immunol. Methods* 225: 87-93.
2. Arai, H., et al. 2011. Thalidomide prevents the progression of peritoneal fibrosis in mice. *Acta Histochem. Cytochem.* 44: 51-60.
3. Li, W., et al. 2012. Core fucosylation of μ heavy chains regulates assembly and intracellular signaling of precursor B cell receptors. *J. Biol. Chem.* 287: 2500-2508.
4. Silva, A.C., et al. 2012. Exercise inhibits allergic lung inflammation. *Int. J. Sports Med.* 33: 402-409.
5. Hizume, D.C., et al. 2012. Cigarette smoke dissociates inflammation and lung remodeling in OVA-sensitized and challenged mice. *Respir. Physiol. Neurobiol.* 181: 167-176.
6. Matos, L., et al. 2012. Copper ability to induce premature senescence in human fibroblasts. *Age* 34: 783-794.
7. Fernández-Velasco, M., et al. 2012. NOD1 activation induces cardiac dysfunction and modulates cardiac fibrosis and cardiomyocyte apoptosis. *PLoS ONE* 7: e45260.
8. Hardy, C.L., et al. 2013. The activin A antagonist follistatin inhibits asthmatic airway remodelling. *Thorax* 68: 9-18.
9. Zhang, X., et al. 2013. Experimentally created unilateral anterior crossbite induces a degenerative ossification phenotype in mandibular condyle of growing Sprague-Dawley rats. *J. Oral Rehabil.* 40: 500-508.



Try **TGF β1 (3C11): sc-130348** or **TGFβ1 (500-M66): sc-65378**, our highly recommended monoclonal alternatives to TGFβ1 (V). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **TGF β1 (3C11): sc-130348**.