SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ1 (V): sc-146

BACKGROUND

Transforming growth factor betas (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_2 terminals or precursor regions of their molecules share only 27% sequence identity.

CHROMOSOMAL LOCATION

Genetic locus: TGFB1 (human) mapping to 19q13.1; Tgfb1 (mouse) mapping to 7 A3.

SOURCE

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

PRODUCT

Each vial contains 200 µg 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).

Available as agarose (sc-146 AC) conjugate for immunoprecipitation, 500 µg/0.25 ml agarose in 1 ml.

Available 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 TGFβ2 of mouse, rat, human, pig and *Xenopus* 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 and 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 monomer TGFβ1: 12.5 kDa.

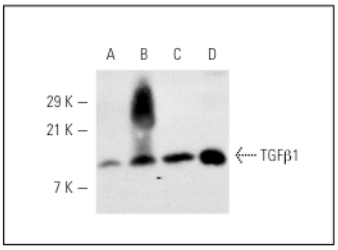
Molecular Weight of dimer TGFβ1: 25 kDa.

Positive Controls: T-47D cell lysate: sc-2293, MCF7 whole cell lysate: sc-2206 or mouse uterus extract.

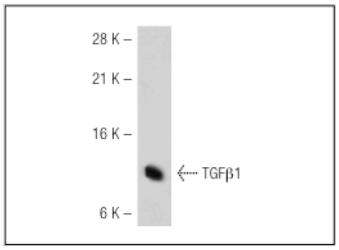
STORAGE

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

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. Western blot analysis of TGFβ1 expression in 293T whole cell lysate.

SELECT PRODUCT CITATIONS

1. Marmorstein, A.D., et al. 2000. Saturation of, and competition for entry into, the apical secretory pathway. Proc. Natl. Acad. Sci. USA 97: 3248-3253.
2. Yang, S.P., et al. 2001. Deregulation of renal transforming growth factor-β1 after experimental short-term ureteric obstruction in fetal sheep. Am. J. Pathol. 158: 109-117.
3. Lyall, F., et al. 2001. Transforming growth factor-β expression in human placenta and placental bed in third trimester normal pregnancy, pre-eclampsia, and fetal growth restriction. Am. J. Pathol. 159: 1827-1838.
4. Berking, C., et al. 2001. Transforming growth factor-β1 increases survival of human melanoma through stroma remodeling. Cancer Res. 61: 8306-8316.
5. Wong, C.H., et al. 2004. Regulation of blood-testis barrier dynamics: an *in vivo* study. J. Cell Sci. 117: 783-798.
6. Andersson, A., et al. 2005. Effects of prednisolone treatment on cytokine expression in patients with leprosy type 1 reactions. Infect. Immun. 73: 3725-3733.
7. Chunn, J.L., et al. 2006. Partially adenosine deaminase-deficient mice develop pulmonary fibrosis in association with adenosine elevations. Am. J. Physiol. 290: 579-587.
8. Yamabe, N., et al. 2007. Beneficial effect of Corni Fructus, a constituent of Hachimi-jio-gan, on advanced glycation end-product-mediated renal injury in Streptozotocin-treated diabetic rats. Biol Pharm Bull. 30: 520-526.

RESEARCH USE

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