SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ3 (III): sc-83

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.

SOURCE

TGFβ3 (III) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of TGFβ3 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-83 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TGFβ3 (III) is recommended for detection of precursor and mature TGFβ3, and to a lesser extent precursor and mature TGFβ1 and TGFβ2 of mouse, rat, human and chicken 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).

TGFβ3 (III) is also recommended for detection of precursor and mature TGFβ3 and, to a lesser extent, TGFβ1 and TGF2 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for TGFβ1/2/3 siRNA (h): sc-44146, TGFβ1/2/3 siRNA (m): sc-44147, TGFβ1/2/3 shRNA Plasmid (h): sc-44146-SH, TGFβ1/2/3 shRNA Plasmid (m): sc-44147-SH, TGFβ1/2/3 shRNA (h) Lentiviral Particles: sc-44146-V and TGFβ1/2/3 shRNA (m) Lentiviral Particles: sc-44147-V.

Molecular Weight of TGFβ3 precursor: 47 kDa.

Molecular Weight of mature TGFβ3: 13 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole well lysate: sc-2210.

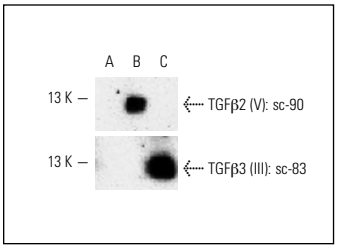
RESEARCH USE

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

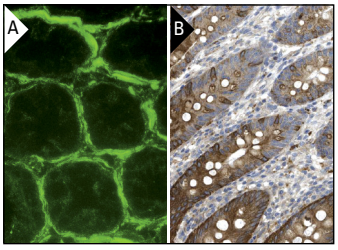
STORAGE

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

DATA



Western blotting analysis of 10 ng each of human recombinant TGFβ1 (**A**), TGFβ2 (**B**) and TGFβ3 (**C**). Antibodies tested include TGFβ2 (V): sc-90 and TGFβ3 (III): sc-83.



TGFβ3 (III): sc-83. Immunofluorescence staining of normal mouse intestine frozen section showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and membrane staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Frank, S., et al. 1996. Transforming growth factors β1, β2, and β3 and their receptors are differentially regulated during normal and impaired wound healing. J. Biol. Chem. 271: 10188-10193.
2. Graner, M.W., et al. 2004. Cargo from tumor-expressed albumin inhibits T-cell activation and responses. Cancer Res. 64: 8085-8092.
3. Lin, W.N., et al. 2008. Lipopolysaccharide induces VCAM-1 expression and neutrophil adhesion to human tracheal smooth muscle cells: involvement of Src/EGFR/PI 3-k/Akt pathway. Toxicol. Appl. Pharmacol. 228: 256-268.
4. Gan, L.Q., et al. 2009. Transforming growth factor-β3 expression up-regulates on cleft palates induced by 2,3,7,8-tetrachlorodibenzo-p-dioxin in mice. Toxicol. Ind. Health 25: 473-478.
5. Waddington, S.N., et al. 2010. Gene delivery of a mutant TGFβ3 reduces markers of scar tissue formation after cutaneous wounding. Mol. Ther. 18: 2104-2111.
6. Villapol, S., et al. 2012. Candesartan, an angiotensin II AT_1-receptor blocker and PPAR-γ agonist, reduces lesion volume and improves motor and memory function after traumatic brain injury in mice. Neuropsychopharmacology 37: 2817-2829.
7. Li, G., et al. 2013. Lyn mitigates mouse airway remodeling by downregulating the TGF-β3 isoform in house dust mite models. J. Immunol. 191: 5359-5370.