SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ (2C6): sc-52829

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.

REFERENCES

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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.
3. Derynck, R., et al. 1985. Human TGFβ cDNA sequence and expression in tumor cell lines. Nature 316: 701-705.
4. deMartin, R., et al. 1987. Complementary DNA for human glioblastoma-derived factor-β family. EMBO J. 6: 3673-3677.
5. ten Dijke, P., et al. 1988. Identification of a new member of the transforming growth factor type β gene family. Proc. Natl. Acad. Sci. USA 85: 4715-4719.
6. Wakefield, L.M., et al. 1989. Recombinant TGFβ1 is synthesized as a two component latent complex that shares some structural features with the native latent TGFβ1 complex. Growth Fact. 1: 203-218.
7. ten Dijke, P., et al. 1990. Recombinant expression and purification of TGFβ3, a potent growth regulator. Ann. N.Y. Acad. Sci. 593: 36-42.
8. Miller, D.A., et al. 1990. TGFβ: a family of growth regulatory peptides. Ann. N.Y. Acad. Sci. 593: 208-217.

CHROMOSOMAL LOCATION

Genetic locus: TGFB1 (human) mapping to 19q13.2.

SOURCE

TGFβ (2C6) is a mouse monoclonal antibody raised against TGFβ from human platelets.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TGFβ (2C6) is recommended for detection of TGFβ of 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

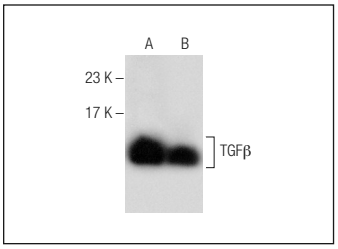
Molecular Weight of TGFβ: 25 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206 or Daudi cell lysate: sc-2415 or Raji whole cell lysate: sc-364236.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TGFβ (2C6): sc-52829. Western blot analysis of TGFβ expression in Daudi (**A**) and Raji (**B**) whole cell lysates.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.