SANTA CRUZ BIOTECHNOLOGY, INC.

TGFα (D-6): sc-374433

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transforming growth factor-α (TGFα) is an acid- and heat-stable 50 amino acid protein originally found in rodents and humans. TGFα is 33% homologous at the amino acid level to epidermal growth factor (EGF). TGFα binds to the EGF receptor, mediates tyrosine phosphorylation of the receptor and promotes anchorage-independent growth of normal rat fibroblasts in soft agar in the presence of transforming growth factor-β. TGFα is secreted by a variety of transformed cells and tumors, embryonic cells and some normal adult cells. TGFα bioactivity has been found in the urine of cancer patients. It has been suggested that it may act as an autocrine growth factor for the induction or maintenance of malignancy.

CHROMOSOMAL LOCATION

Genetic locus: TGFA (human) mapping to 2p13.3, BTC (human) mapping to 4q13.3; Tgfa (mouse) mapping to 6 D1, Btc (mouse) mapping to 5 E2.

SOURCE

TGFα (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 63-89 at the C-terminus of TGFα of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGFα (D-6) is available conjugated to agarose (sc-374433 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374433 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374433 PE), fluorescein (sc-374433 FITC), Alexa Fluor® 488 (sc-374433 AF488), Alexa Fluor® 546 (sc-374433 AF546), Alexa Fluor® 594 (sc-374433 AF594) or Alexa Fluor® 647 (sc-374433 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374433 AF680) or Alexa Fluor® 790 (sc-374433 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374433 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TGFα (D-6) is recommended for detection of presursor and mature TGFα and BTC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

TGFα (D-6) is also recommended for detection of presursor and mature TGFα and BTC in additional species, including equine, canine, bovine and porcine.

Molecular Weight of TGFα precursor: 13-30 kDa.

Molecular Weight of mature TGFα: 6 kDa.

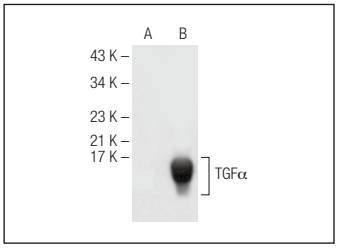
Molecular Weight of BTC: 18-32 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

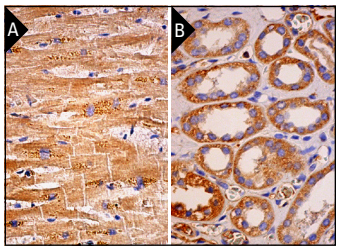
STORAGE

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

DATA



TGFα (D-6): sc-374433. Western blot analysis of TGFα expression in non-transfected (**A**) and human TGFα transfected (**B**) 293T whole cell lysates.



TGFα (D-6): sc-374433. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Herrera-Abreu, M,T., et al. 2013. Parallel RNA interference screens identify EGFR activation as an escape mechanism in FGFR3 mutant cancer. Cancer Discov. 3: 1058-1071.
2. Hou, C.H., et al. 2014. Transforming growth factor α promotes osteosarcoma metastasis by ICAM-1 and PI3K/Akt signaling pathway. Biochem. Pharmacol. 89: 453-463.
3. Yuan, C.H., et al. 2015. Amphiregulin activates regulatory T lymphocytes and suppresses $CD8^+$ T cell-mediated anti-tumor response in hepatocellular carcinoma cells. Oncotarget 6: 32138-32153.
4. Dincel, G.C. and Kul, O. 2019. First description of enhanced expression of transforming growth factor-α (TGFα) and glia maturation factor-β (GMF-β) correlate with severity of neuropathology in border disease virus-infected small ruminants. Microb. Pathog. 128: 301-310.
5. Naito, K., et al. 2019. Effect of selective serotonin (5-HT)2B receptor agonist BW723C86 on epidermal growth factor/transforming growth factor-α receptor tyrosine kinase and ribosomal p70 S6 kinase activities in primary cultures of adult rat hepatocytes. Biol. Pharm. Bull. 42: 631-637.
6. Zhang, S., et al. 2019. Predictive value of transforming growth factor-α and Ki-67 for the prognosis of skull base chordoma. World Neurosurg. 129: e199-e206.
7. Cankara, F.N., et al. 2020. The neuroprotective action of lenalidomide on rotenone model of Parkinson's disease: neurotrophic and supportive actions in the substantia nigra pars compacta. Neurosci. Lett. 738: 135308.

RESEARCH USE

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