

# TGF $\alpha$ (D-6): sc-374433



The Power to Question

## BACKGROUND

Transforming growth factor- $\alpha$  (TGF $\alpha$ ) is an acid- and heat-stable 50 amino acid protein originally found in rodents and humans. TGF $\alpha$  is 33% homologous at the amino acid level to epidermal growth factor (EGF). TGF $\alpha$  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- $\beta$ . TGF $\alpha$  is secreted by a variety of transformed cells and tumors, embryonic cells and some normal adult cells. TGF $\alpha$  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

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

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

## APPLICATIONS

TGF $\alpha$  (D-6) is recommended for detection of precursor and mature TGF $\alpha$  and BTC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

TGF $\alpha$  (D-6) is also recommended for detection of precursor and mature TGF $\alpha$  and BTC in additional species, including equine, canine, bovine and porcine.

Molecular Weight of TGF $\alpha$  precursor: 13-30 kDa.

Molecular Weight of mature TGF $\alpha$ : 6 kDa.

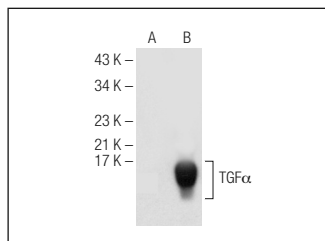
Molecular Weight of BTC: 18-32 kDa.

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

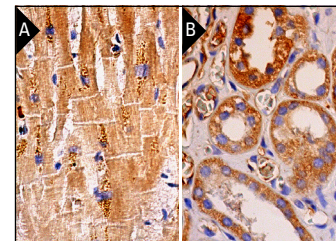
## STORAGE

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

## DATA



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



TGF $\alpha$  (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

- 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.
- Hou, C.H., et al. 2014. Transforming growth factor  $\alpha$  promotes osteosarcoma metastasis by ICAM-1 and PI3K/Akt signaling pathway. *Biochem. Pharmacol.* 89: 453-463.
- Yuan, C.H., et al. 2015. Amphiregulin activates regulatory T lymphocytes and suppresses CD8<sup>+</sup> T cell-mediated anti-tumor response in hepatocellular carcinoma cells. *Oncotarget* 6: 32138-32153.
- Dincel, G.C. and Kul, O. 2019. First description of enhanced expression of transforming growth factor- $\alpha$  (TGF $\alpha$ ) and glia maturation factor- $\beta$  (GMF- $\beta$ ) correlate with severity of neuropathology in border disease virus-infected small ruminants. *Microb. Pathog.* 128: 301-310.
- Naito, K., et al. 2019. Effect of selective serotonin (5-HT)<sub>2B</sub> receptor agonist BW723C86 on epidermal growth factor/transforming growth factor- $\alpha$  receptor tyrosine kinase and ribosomal p70 S6 kinase activities in primary cultures of adult rat hepatocytes. *Biol. Pharm. Bull.* 42: 631-637.
- Zhang, S., et al. 2019. Predictive value of transforming growth factor- $\alpha$  and Ki-67 for the prognosis of skull base chordoma. *World Neurosurg.* 129: e199-e206.
- 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.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA