SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ RI (V-22): sc-398

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A total of three members of the TGFβ family, TGFβ1, TGFβ2 and TGFβ3, have been identified in mammals. Each is synthesized as a latent precursor that is subsequently cleaved forming the 112 amino acid growth factor which becomes active upon dimerization. TGFβs mediate their activity by high affinity binding to the type II receptor transmembrane protein with a cytoplasmic serine-threonine kinase domain. For signaling growth inhibition and early gene responses, TGFβ RII requires both its kinase activity and its association with a TGFβ-binding protein, designated TGFβ receptor type-1 (TGFβ RI). TGFβ RI is a 503 amino acid single-pass type I membrane protein that is expressed ubiquitously and, with TGFβ RII, functions as a receptor for TGFβ. Defects in the gene encoding TGFβ RI are the cause of aortic aneurysm familial thoracic type 5 (AAT5), Loeys-Dietz syndrome type 2A (LDS2A) and Loeys-Dietz syndrome type 1A (LDS1A).

CHROMOSOMAL LOCATION

Genetic locus: TGFBR1 (human) mapping to 9q22.33; Tgfbr1 (mouse) mapping to 4 B1.

SOURCE

TGFβ RI (V-22) is available as either rabbit (sc-398) or goat (sc-398-G) polyclonal affinity purified antibody raised against a peptide mapping within a cytoplasmic domain of TGFβ RI of human origin.

PRODUCT

Each vial contains either 100 µg (sc-398) or 200 µg (sc-398-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGFβ RI (V-22) is available conjugated to agarose (sc-398 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-398 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TGFβ RI (V-22) is recommended for detection of TGFβ RI of mouse, rat, human and ovine 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).

TGFβ RI (V-22) is also recommended for detection of TGFβ RI in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TGFβ RI siRNA (h): sc-40222, TGFβ RI siRNA (m): sc-40223, TGFβ RI shRNA Plasmid (h): sc-40222-SH, TGFβ RI shRNA Plasmid (m): sc-40223-SH, TGFβ RI shRNA (h) Lentiviral Particles: sc-40222-V and TGFβ RI shRNA (m) Lentiviral Particles: sc-40223-V.

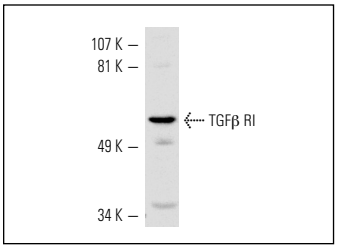
Molecular Weight of TGFβ RI: 53 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, PC-3 cell lysate: sc-2220 or A549 cell lysate: sc-2413.

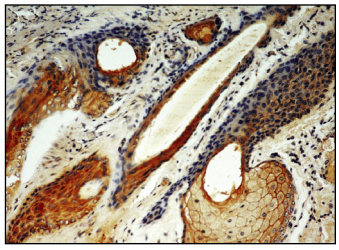
STORAGE

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

DATA



TGFβ RI (V-22): sc-398. Western blot analysis of TGFβ RI expression in A549 whole cell lysate.



TGFβ RI (V-22): sc-398. Immunoperoxidase staining of formalin-fixed, paraffin-embedded wounded ovine skin one day following excisional injury. Note cytoplasmic and membrane staining. Kindly provided by Leslie Gold.

SELECT PRODUCT CITATIONS

1. Santoni-Rugiu, E., et al. 1999. Acceleration of c-Myc-induced hepatocarcinogenesis by co-expression of transforming growth factor TGF-α in transgenic mice is associated with TGFβ1 signaling disruption. Am. J. Pathol. 154: 1693-1700.
2. Kang, S.H., et al. 1999. Transcriptional repression of the transforming growth factor-β type I receptor gene by DNA methylation results in the development of TGF-β resistance in human gastric cancer. Oncogene 18: 7280-7286.
3. Sun, D.X., et al. 2012. Nanoparticle-mediated local delivery of an antisense TGF-β1 construct inhibits intimal hyperplasia in autogenous vein grafts in rats. PLoS ONE 7: e41857.
4. Yan, M.D., et al. 2015. Fucoidan elevates microRNA-29b to regulate DNMT3B-MTSS1 axis and inhibit EMT in human hepatocellular carcinoma cells. Mar. Drugs 13: 6099-6116.
5. Aki, S., et al. 2015. Phosphatidylinositol 3-kinase class II α-isoform PI3K-C2α is required for transforming growth factor β-induced Smad signaling in endothelial cells. J. Biol. Chem. 290: 6086-6105.
6. Perini, S., et al. 2016. Enhanced expression of melanoma progression markers in mouse model of sleep apnea. Rev. Port. Pneumol. 22: 209-213.

RESEARCH USE

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