SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ RI (R-20): sc-399

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 (TGFβ RII) 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).

SOURCE

TGFβ RI (R-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of TGFβ RI 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-399 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TGFβ RI (R-20) is recommended for detection of TGFβ RI of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with ALK-1, ACTR-I, ACTR-IB, ACTR-IC and BMPR-IA.

TGFβ RI (R-20) 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: PC-3 cell lysate: sc-2220, SK-N-SH cell lysate: sc-2410 or A549 cell lysate: sc-2413.

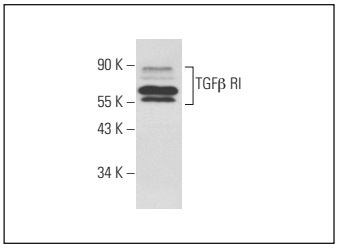
STORAGE

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

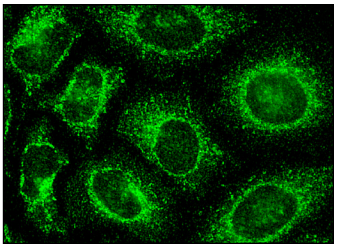
RESEARCH USE

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

DATA



TGFβ RI (R-20): sc-399. Western blot analysis of TGFβ RI expression in PC-3 whole cell lysate.



TGFβ RI (R-20): sc-399. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

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3. Kang, Q. and Chen, A. 2009. Curcumin suppresses expression of low-density lipoprotein (LDL) receptor, leading to the inhibition of LDL-induced activation of hepatic stellate cells. Br. J. Pharmacol. 157: 1354-1367.
4. Gramley, F., et al. 2010. Atrial fibrosis and atrial fibrillation: the role of the TGF-β1 signaling pathway. Int. J. Cardiol. 143: 405-413.
5. Ogias, D., et al. 2010. Opposite effects of fasting on TGF-β3 and TβRI distribution in the gastric mucosa of suckling and early weanling rats. Nutrition 26: 224-229.
6. Munoz-Félix, J.M., et al. 2014. Heterozygous disruption of activin receptor-like kinase 1 is associated with increased renal fibrosis in a mouse model of obstructive nephropathy. Kidney Int. 85: 319-332.
7. Munoz-Felix, J.M., et al. 2014. ALK1 heterozygosity increases extracellular matrix protein expression, proliferation and migration in fibroblasts. Biochim. Biophys. Acta 1843: 1111-1122.
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