

TGFβ RI (D-1): sc-518018



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 RI 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.

SOURCE

TGFβ RI (D-1) is a mouse monoclonal antibody raised against amino acids 26-125 mapping within an extracellular domain of TGFβ RI of human origin.

PRODUCT

Each vial contains 200 μg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGFβ RI (D-1) is available conjugated to agarose (sc-518018 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518018 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518018 PE), fluorescein (sc-518018 FITC), Alexa Fluor® 488 (sc-518018 AF488), Alexa Fluor® 546 (sc-518018 AF546), Alexa Fluor® 594 (sc-518018 AF594) or Alexa Fluor® 647 (sc-518018 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518018 AF680) or Alexa Fluor® 790 (sc-518018 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TGFβ RI (D-1) is recommended for detection of TGFβ RI of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of TGFβ RI: 53 kDa.

Positive Controls: human TGFβ RI transfected HEK293T whole cell lysate.

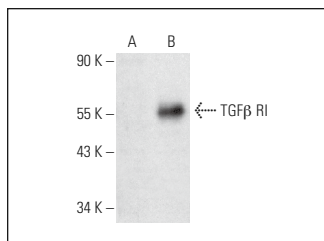
STORAGE

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 (D-1): sc-518018. Western blot analysis of TGFβ RI expression in non-transfected (A) and human transfected (B) HEK293T whole cell lysates.

SELECT PRODUCT CITATIONS

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- Jeon, K.I. and Huxlin, K.R. 2020. How scars shape the neural landscape: key molecular mediators of TGF-β1's anti-neuritogenic effects. *PLoS ONE* 15: e0234950.
- Liu, Q., et al. 2021. Gypenoside XLIX loaded nanoparticles targeting therapy for renal fibrosis and its mechanism. *Eur. J. Pharmacol.* 910: 174501.
- Sohn, S.H., et al. 2021. Entrectinib induces apoptosis and inhibits the epithelial-mesenchymal transition in gastric cancer with NTRK overexpression. *Int. J. Mol. Sci.* 23: 395.
- Guan, G., et al. 2022. TFPI2 suppresses the interaction of TGF-β2 pathway regulators to promote endothelial-mesenchymal transition in diabetic nephropathy. *J. Biol. Chem.* 298: 101725.
- You, Y., et al. 2022. Enhanced expression of ARK5 in hepatic stellate cell and hepatocyte synergistically promote liver fibrosis. *Int. J. Mol. Sci.* 23: 13084.
- Zhu, X., et al. 2023. Crosstalk between suppression of tumorigenicity 2 and transforming growth factor-β receptor signaling promotes renal fibrosis. *Am. J. Pathol.* 193: 1029-1045.
- Jang, K.O., et al. 2023. Anti-obesity potential of heat-killed *Lactiplantibacillus plantarum* K8 in 3T3-L1 cells and high-fat diet mice. *Heliyon* 9: e12926.

PROTOCOLS

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

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