

# TGFβ RII (D-2): sc-17799

## 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) transmembrane protein with a cytoplasmic serine-threonine kinase domain. TGFβ RII (TGF-β receptor type-2), also known as TGFBR2, is a 567 amino acid single-pass type I membrane protein that contains one protein kinase domain and is a member of the protein kinase superfamily, TKL Ser/Thr protein kinase family and TGFβ receptor subfamily. For signaling growth inhibition and early gene responses, TGFβ RII requires both its kinase activity and association with a TGFβ-binding protein, designated the type I receptor. TGFβ RII exists as two alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 3.

## CHROMOSOMAL LOCATION

Genetic locus: TGFBR2 (human) mapping to 3p24.1; Tgfr2 (mouse) mapping to 9 F3.

## SOURCE

TGFβ RII (D-2) is a mouse monoclonal antibody raised against amino acids 1-567 of TGFβ RII of human origin.

## PRODUCT

Each vial contains 200 μg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGFβ RII (D-2) is available conjugated to agarose (sc-17799 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17799 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17799 PE), fluorescein (sc-17799 FITC), Alexa Fluor® 488 (sc-17799 AF488), Alexa Fluor® 546 (sc-17799 AF546), Alexa Fluor® 594 (sc-17799 AF594) or Alexa Fluor® 647 (sc-17799 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17799 AF680) or Alexa Fluor® 790 (sc-17799 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

TGFβ RII (D-2) is recommended for detection of TGFβ RII of mouse, rat and human origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:5,000), 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).

Suitable for use as control antibody for TGFβ RII siRNA (h): sc-36657, TGFβ RII siRNA (m): sc-36658, TGFβ RII shRNA Plasmid (h): sc-36657-SH, TGFβ RII shRNA Plasmid (m): sc-36658-SH, TGFβ RII shRNA (h) Lentiviral Particles: sc-36657-V and TGFβ RII shRNA (m) Lentiviral Particles: sc-36658-V.

Molecular Weight (predicted) of TGFβ RII isoforms: 64/67 kDa.

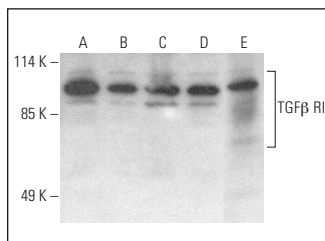
Molecular Weight of glycosylated TGFβ RII: 75-85 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799.

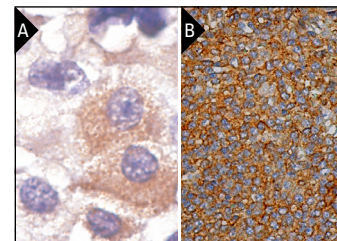
## STORAGE

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

## DATA



TGFβ RII (D-2) HRP: sc-17799 HRP. Direct western blot analysis of TGFβ RII expression in U-698-M (A), Raji (B), IMR-32 (C), TF-1 (D) and HT-1080 (E) whole cell lysates.



TGFβ RII (D-2): sc-17799. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing membrane and cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of cells in white pulp and cells in red pulp (B).

## SELECT PRODUCT CITATIONS

- Wohlfert, E.A., et al. 2004. Resistance to CD4<sup>+</sup>CD25<sup>+</sup> regulatory T cells and TGFβ in Cbl-b<sup>-/-</sup> mice. *J. Immunol.* 173: 1059-1065.
- Tong, J., et al. 2014. TGF-β1 stimulates human Tenon's capsule fibroblast proliferation by miR-200b and its targeting of p27/kip1 and RND3. *Invest. Ophthalmol. Vis. Sci.* 55: 2747-2756.
- Lee, J., et al. 2015. Reconstitution of TGFBR2-mediated signaling causes upregulation of GDF-15 in HCT116 colorectal cancer cells. *PLoS ONE* 10: e0131506.
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- Meseguer, S., et al. 2018. The MELAS mutation m.3243A>G promotes reactivation of fetal cardiac genes and an epithelial-mesenchymal transition-like program via dysregulation of miRNAs. *Biochim. Biophys. Acta* 1864: 3022-3037.
- Yuan, H., et al. 2019. Calcium-sensing receptor promotes high glucose-induced myocardial fibrosis via upregulation of the TGF-β1/Smads pathway in cardiac fibroblasts. *Mol. Med. Rep.* 20: 1093-1102.
- 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.
- Monteiro, D.A., et al. 2021. Fluid shear stress generates a unique signaling response by activating multiple TGFβ family type I receptors in osteocytes. *FASEB J.* 35: e21263.

## RESEARCH USE

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

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