

TGFβ RII (E-6): sc-17792

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 (E-6) is a mouse monoclonal antibody raised against amino acids 1-567 of TGFβ RII 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 RII (E-6) is available conjugated to either Alexa Fluor® 546 (sc-17792 AF546) or Alexa Fluor® 594 (sc-17792 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17792 AF680) or Alexa Fluor® 790 (sc-17792 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TGFβ RII (E-6) is recommended for detection of TGFβ RII of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 of TGFβ RII isoforms: 64/67 kDa.

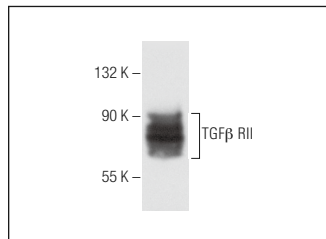
Molecular Weight of glycosylated TGFβ RII: 75-85 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Hep G2 cell lysate: sc-2227 or KNRK whole cell lysate: sc-2214.

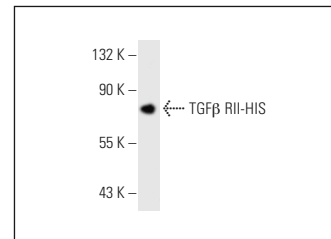
STORAGE

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

DATA



TGFβ RII (E-6): sc-17792. Western blot analysis of TGFβ RII expression in NIH/3T3 whole cell lysate.



TGFβ RII (E-6): sc-17792. Western blot analysis of HIS-tagged human recombinant TGFβ RII.

SELECT PRODUCT CITATIONS

1. Yang, J., et al. 2005. A novel mechanism by which hepatocyte growth factor blocks tubular epithelial to mesenchymal transition. *J. Am. Soc. Nephrol.* 16: 68-78.
2. Liu, C., et al. 2013. IQGAP1 suppresses TβRII-mediated myofibroblastic activation and metastatic growth in liver. *J. Clin. Invest.* 123: 1138-1156.
3. Holtzhausen, A., et al. 2014. Novel bone morphogenetic protein signaling through Smad2 and Smad3 to regulate cancer progression and development. *FASEB J.* 28: 1248-1267.
4. Chang, T.P., et al. 2015. Bortezomib inhibits expression of TGF-β1, IL-10, and CXCR4, resulting in decreased survival and migration of cutaneous T cell lymphoma cells. *J. Immunol.* 194: 2942-2953.
5. Cammareri, P., et al. 2016. Inactivation of TGFβ receptors in stem cells drives cutaneous squamous cell carcinoma. *Nat. Commun.* 7: 12493.
6. Bian, S.S., et al. 2017. Clock1a affects mesoderm development and primitive hematopoiesis by regulating Nodal-Smad3 signaling in the zebrafish embryo. *J. Biol. Chem.* 292: 14165-14175.
7. Wang, Y., et al. 2018. Local honokiol application inhibits intimal thickening in rabbits following carotid artery balloon injury. *Mol. Med. Rep.* 17: 1683-1689.
8. Wang, Y., et al. 2019. Dysregulated Tgfr2/ERK-Smad4/SOX2 signaling promotes lung squamous cell carcinoma formation. *Cancer Res.* 79: 4466-4479.
9. Pandolfi, L., et al. 2020. Loading imatinib inside targeted nanoparticles to prevent bronchiolitis obliterans syndrome. *Sci. Rep.* 10: 20726.

RESEARCH USE

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

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