

TGFβ RII (I-20): sc-33931

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.

REFERENCES

1. Anzano, M.A., et al. 1983. Sarcoma growth factor from conditioned medium of virally transformed cells is composed of both type α and type β transforming growth factors. *Proc. Natl. Acad. Sci. USA* 80: 6264-6268.
2. Derynck, R., et al. 1985. Human transforming growth factor-β cDNA sequence and expression in tumor cell lines. *Nature* 316: 701-705.
3. ten Dijke, P., et al. 1988. Identification of a new member of the transforming growth factor type β gene family. *Proc. Natl. Acad. Sci. USA* 85: 4715-4719.
4. Cheifetz, S., et al. 1990. Distinct transforming growth factor-β receptor subsets as determinants of cellular responsiveness to three TGFβ isoforms. *J. Biol. Chem.* 265: 20533-20538.
5. Wrana, J.L., et al. 1992. TGFβ signals through a heteromeric protein kinase receptor complex. *Cell* 71: 1003-1014.
6. Attisano, L., et al. 1993. Identification of human activin and TGFβ type I receptors that form heteromeric kinase complexes with type II receptors. *Cell* 75: 671-680.

CHROMOSOMAL LOCATION

Genetic locus: *Tgfr2* (mouse) mapping to 9 F3.

SOURCE

TGFβ RII (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of TGFβ RII of mouse 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-33931 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

TGFβ RII (I-20) is recommended for detection of TGFβ RII isoform 1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 RII siRNA (m): sc-36658, TGFβ RII shRNA Plasmid (m): sc-36658-SH and TGFβ RII shRNA (m) Lentiviral Particles: sc-36658-V.

Molecular Weight of TGFβ RII: 70 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Freeman-Anderson, N.E., et al. 2009. Expression of the Arf tumor suppressor gene is controlled by Tgfβ2 during development. *Development* 136: 2081-2089.

STORAGE

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

PROTOCOLS

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



Try **TGFβ RII (C-4): sc-17791** or **TGFβ RII (D-2): sc-17799**, our highly recommended monoclonal alternatives to TGFβ RII (I-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TGFβ RII (C-4): sc-17791**.