

TGF β RI (G-16): sc-33933

BACKGROUND

A total of three members of the TGF β family, TGF β 1, TGF β 2 and TGF β 3, 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. TGF β s 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, TGF β RII requires both its kinase activity and its association with a TGF β -binding protein, designated TGF β receptor type-1 (TGF β RI). TGF β RI is a 503 amino acid single-pass type I membrane protein that is expressed ubiquitously and, with TGF β RII, functions as a receptor for TGF β . Defects in the gene encoding TGF β 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).

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 TGF β isoforms. J. Biol. Chem. 265: 20533-20538.
5. Wrana, J.L., et al. 1992. TGF β signals through a heteromeric protein kinase receptor complex. Cell 71: 1003-1014.
6. Attisano, L., et al. 1993. Identification of human activin and TGF β type I receptors that form heteromeric kinase complexes with type II receptors. Cell 75: 671-680.

CHROMOSOMAL LOCATION

Genetic locus: TGFBR1 (human) mapping to 9q22.33; Tgfr1 (mouse) mapping to 4 B1.

SOURCE

TGF β RI (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of TGF β RI of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33933 P, (100 μ g 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

TGF β RI (G-16) is recommended for detection of TGF β RI (ALK-5) of mouse, rat and human 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).

TGF β RI (G-16) is also recommended for detection of TGF β RI (ALK-5) in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for TGF β RI siRNA (h): sc-40222, TGF β RI siRNA (m): sc-40223, TGF β RI shRNA Plasmid (h): sc-40222-SH, TGF β RI shRNA Plasmid (m): sc-40223-SH, TGF β RI shRNA (h) Lentiviral Particles: sc-40222-V and TGF β RI shRNA (m) Lentiviral Particles: sc-40223-V.

Molecular Weight of TGF β RI: 53 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, IMR-32 cell lysate: sc-2409 or Hep G2 cell lysate: sc-2227.

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. Chen, Y., et al. 2008. LPS-induced up-regulation of TGF- β receptor 1 is associated with TNF- α expression in human monocyte-derived macrophages. J. Leukoc. Biol. 83: 1165-1173.
2. Sun, R.Z., et al. 2010. Expression of GDF-9, BMP-15 and their receptors in mammalian ovary follicles. J. Mol. Histol. 41: 325-332.
3. Chen, T.C., et al. 2013. Moxifloxacin modifies corneal fibroblast-to-myofibroblast differentiation. Br. J. Pharmacol. 168: 1341-1354.

STORAGE

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



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Try **TGF β RI (RM0016-3A11): sc-101574**, our highly recommended monoclonal alternative to TGF β RI (G-16).