

TGFβ RI (RM0016-3A11): sc-101574

BACKGROUND

A total of three members of the TGFβ family, namely 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 TGFβ receptor type-II (TGFβ RII) with a cytoplasmic serine-threonine kinase domain. For signaling growth inhibition and early gene responses, TGFβ RII 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), Loey's-Dietz syndrome type 2A (LDS2A) and Loey's-Dietz syndrome type 1A (LDS1A).

REFERENCES

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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.

CHROMOSOMAL LOCATION

Genetic locus: Tgfr1 (mouse) mapping to 4 B1.

SOURCE

TGFβ RI (RM0016-3A11) is a rat monoclonal antibody raised against the extracellular domain of TGFβ RI of mouse origin.

PRODUCT

Each vial contains 50 μg IgG₂ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TGFβ RI (RM0016-3A11) is recommended for detection of TGFβ RI 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of TGFβ RI: 53 kDa.

STORAGE

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

SELECT PRODUCT CITATIONS

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12. Liang, H., et al. 2020. RGFP966, a Histone deacetylase 3 inhibitor, promotes glioma stem cell differentiation by blocking TGFβ signaling via SMAD7. *Biochem. Pharmacol.* 180: 114118.
13. Rozés-Salvador, V., et al. 2020. Fine-tuning the TGFβ signaling pathway by SARA during neuronal development. *Front. Cell Dev. Biol.* 8: 550267.

RESEARCH USE

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