SANTA CRUZ BIOTECHNOLOGY, INC.

p-TGFβ RII (Tyr 259): sc-17005

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-beta 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 TGFB 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. Lawrence, D.A. 1996. Transforming growth factor β: a general review. Eur. Cytokine Netw. 7: 363-374.
2. Koli, K.M. and Arteaga, C.L. 1997. Processing of the transforming growth factor β type I and II receptors. Biosynthesis and ligand-induced regulation. J. Biol. Chem. 272: 6423-6427.
3. Lawler, S., et al. 1997. The type II transforming growth factor β receptor autophosphorylates not only on serine and threonine but also on tyrosine residues. J. Biol. Chem. 272: 14850-14859.
4. Wrana, J.L. 1998. TGFβ receptors and signalling mechanisms. Miner. Electrolyte Metab. 24: 120-130.
5. Engel, M.E., et al. 1998. Signal transduction by transforming growth factor β: a cooperative paradigm with extensive negative regulation. J. Cell Biochem. Suppl. 30-31: 111-122.

CHROMOSOMAL LOCATION

Genetic locus: TGFBR2 (human) mapping to 3p24.1; Tgfbr2 (mouse) mapping to 9 F3.

SOURCE

p-TGFβ RII (Tyr 259) is available as either goat (sc-17005) or rabbit (sc-17005-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 259 phosphorylated TGFβ RII of human 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-17005 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-TGFβ RII (Tyr 259) is recommended for detection of Tyr 259 phosphorylated TGFβ RII 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).

p-TGFβ RII (Tyr 259) is also recommended for detection of correspondingly phosphorylated TGFβ RII in additional species, including equine, canine, bovine, porcine and avian.

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 p-TGFβ RII isoforms: 64/67 kDa.

Molecular Weight (observed) of p-TGFβ RII: 75 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-17005): 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), for rabbit primary antibody (sc-17005-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: for goat primary antibody (sc-17005): 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, for rabbit primary antibody (sc-17005-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2006. A novel selective progesterone receptor modulator asoprisnil (J867) down-regulates the expression of EGF, IGF-I, TGFβ3 and their receptors in cultured uterine leiomyoma cells. Hum. Reprod. 21: 1869-1877.
2. Kaukinen, A., et al. 2010. Changes in glomerular mesangium in kidneys with congenital nephrotic syndrome of the Finnish type. Pediatr. Nephrol. 25: 867-875.

RESEARCH USE

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

PROTOCOLS

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