SANTA CRUZ BIOTECHNOLOGY, INC.

p-TGFβ RII (Tyr 424)-R: sc-17007-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The TGFβ superfamily is comprised of evolutionarily conserved, secreted factors that regulate cell proliferation, differentiation, motility, adhesion and apoptosis. Members of this family mediate their activity by high affinity binding to a pair of transmembrane proteins, known as receptors type I and type II, which contain Serine/Threonine kinases and associate with one another to form a signaling complex. Specifically, TGFβ1, TGFβ2 and TGFβ3 bind to the 70 kDa TGFβ Receptor type II transmembrane protein, which then recruits the 53 kDa TGFβ Receptor type I into a heteromeric complex. Within this complex, TGFβ RII transphosphorylates TGFβ RI, which mediates a downstream signaling cascade that involves Serine phosphorylation of Smad2 and Smad3. Phosphorylation of TGFβ RII not only occurs on Serine and Threonine residues, but it has also been shown to be autophosphorylated on tyrosine residues 259, 336 and 424, which are thought to play an autoregulatory role for its kinase activity. The gene encoding TGFβ RII maps to human chromosome 3p22.

REFERENCES

1. Lawrence, D.A. 1996. Transforming growth factor beta: 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 beta receptor autophosphorylates not only on Serine and Threonine but also on tyrosine residues. J. Biol. Chem. 272: 14850-14859.
4. Engel, M.E., et al. 1998. Signal transduction by transforming growth factor beta: a cooperative paradigm with extensive negative regulation. J. Cell Biochem. Suppl. 30-31: 111-22.

CHROMOSOMAL LOCATION

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

SOURCE

p-TGFβ RII (Tyr 424)-R is a rabbit polyclonal antibody (sc-17007-R) raised against a short amino acid sequence containing phosphorylated Tyr 424 of 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-17007 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 424)-R is recommended for detection of Tyr 424 phosphorylated TGFβ RII of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-TGFβ RII (Tyr 424)-R is also recommended for detection of correspondingly phosphorylated Tyr 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.

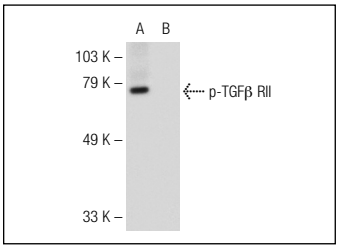
Molecular Weight of p-TGFβ RII: 70 kDa.

Positive Controls: A549 cell lysate: sc-2413, KNRK whole cell lysate: sc-2214 or Hep G2 cell lysate: sc-2227

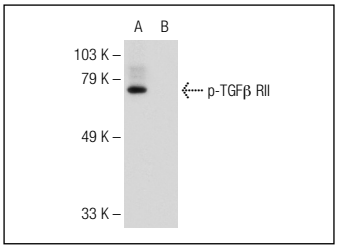
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use 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), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: 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.

DATA



Western blot analysis of TGFβ RII phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) WEHI-231 whole cell lysates. Antibody tested is p-TGFβ RII (Tyr 424)-R: sc-17007-R (**A**,**B**).



Western blot analysis of TGFβ RII phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) NIH/3T3 whole cell lysates. Antibody tested is p-TGFβ RII (Tyr 424)-R: sc-17007-R (**A**,**B**).

RESEARCH USE

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