SANTA CRUZ BIOTECHNOLOGY, INC.

p-TNF-R1 (Ser 274): sc-130220

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tumor necrosis factor (TNF) is a pleiotropic cytokine whose function is mediated through two distinct cell surface receptors. These receptors, designated TNF-R1 and TNF-R2, are expressed on most cell types. The majority of TNF functions are primarily mediated through TNF-R1, while signaling through TNF-R2 occurs less extensively and is confined to cells of the immune system. Both of these proteins belong to the growing TNF and nerve growth factor (NGF) receptor superfamily, which includes FAS, CD30, CD27 and CD40. The members of this superfamily are type I membrane proteins that share sequence homology confined to the extracellular region. TNF-R1 shares a motif coined the "death domain" with FAS and three structurally unrelated signaling proteins, TRADD, FADD and RIP. This "death domain" is required for transduction of the apoptotic signal. Human TNF-R1 is subject to phosphorylation on specific amino acid residues, including Ser 274.

REFERENCES

1. Derré, J., et al. 1991. The gene for the type 1 tumor necrosis factor receptor (TNF-R1) is localized on band 12p13. Hum. Genet. 87: 231-233.
2. Milatovich, A., et al. 1991. Tumor necrosis factor receptor genes, TNF-R1 and TNF-R2, on human chromosomes 12 and 1. Somat. Cell Mol. Genet. 17: 519-523.
3. Vielhauer, V., et al. 2005. Renal cell-expressed TNF receptor 2, not receptor 1, is essential for the development of glomerulonephritis. J. Clin. Invest. 115: 1199-1209.
4. Dieudé, P., et al. 2007. The TNFRSF1A R92Q mutation is frequent in rheumatoid arthritis but shows no evidence for association or linkage with the disease. Ann. Rheum. Dis. 66: 1113-1115.
5. Rossol, M., et al. 2007. Interaction between transmembrane TNF and TNF-R1/2 mediates the activation of monocytes by contact with T cells. J. Immunol. 179: 4239-4248.
6. Kim, S., et al. 2008. TNF-R1 promoter -329G/T polymorphism results in allele-specific repression of TNF-R1 expression. Biochem. Biophys. Res. Commun. 368: 395-401.
7. Paland, N., et al. 2008. Reduced display of tumor necrosis factor receptor I at the host cell surface supports infection with *Chlamydia trachomatis*. J. Biol. Chem. 283: 6438-6448.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF1A (human) mapping to 12p13.31; Tnfrsf1a (mouse) mapping to 6 F3.

SOURCE

p-TNF-R1 (Ser 274) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 274 of TNF-R1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-TNF-R1 (Ser 274) is recommended for detection of Ser 274 phosphorylated TNF-R1 of human origin and correspondingly phosphorylated Ser 273 TNF-R1 of mouse 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), immunohistochemistry (including paraffin-embedded sections) (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 TNF-R1 siRNA (h): sc-29507, TNF-R1 siRNA (m): sc-36688, TNF-R1 shRNA Plasmid (h): sc-29507-SH, TNF-R1 shRNA Plasmid (m): sc-36688-SH, TNF-R1 shRNA (h) Lentiviral Particles: sc-29507-V and TNF-R1 shRNA (m) Lentiviral Particles: sc-36688-V.

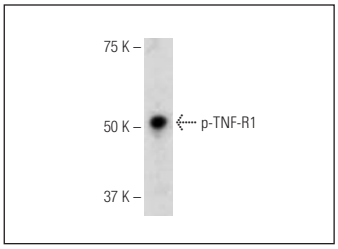
Molecular Weight of p-TNF-R1: 55 kDa.

Positive Controls: mouse uterus tissue extract.

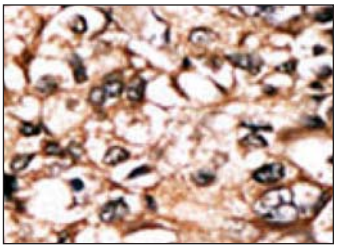
RECOMMENDED SECONDARY REAGENTS

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) and Western Blotting Luminol Reagent: sc-2048. 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-TNF-R1 (Ser 274): sc-130220. Western blot analysis of p-TNF-R1 expression in mouse uterus tissue extract.



p-TNF-R1 (Ser 274):sc-130220. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

RESEARCH USE

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