SANTA CRUZ BIOTECHNOLOGY, INC.

TNFα (R-19): sc-1349

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tumor necrosis factor β (TNFβ), also known as lymphotoxin, is a pleiotropic cytokine. TNFα, also known as cachectin, is a smaller cytokine that binds to the same receptors producing a vast array of effects similar to those of TNFβ. TNFβ and TNFα share 30% amino acid homology and have similar biological activities. TNFβ is produced by activated lymphocytes, including $CD4^+$ T helper cell type 1 lymphocytes, $CD8^+$ lymphocytes and certain B lymphoblastoid cell lines. TNFα is produced by several different cell types, which include lymphocytes, neutrophils and macrophages. TNFα and TNFβ can modulate many immune and inflammatory functions, while having the ability to inhibit tumor growth. Target tumor cells must express TNF receptors 1 and 2 to be killed, with the p55 receptor mediating the cytotoxic response.

CHROMOSOMAL LOCATION

Genetic locus: Tnf (mouse) mapping to 17 B1.

SOURCE

TNFα (R-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TNFα of rat 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-1349 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TNFα (R-19) is recommended for detection of TNFα of mouse and rat 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TNFα siRNA (m): sc-37217, TNFα shRNA Plasmid (m): sc-37217-SH and TNFα shRNA (m) Lentiviral Particles: sc-37217-V.

Molecular Weight of transmembrane TNFα: 26 kDa.

Molecular Weight of soluble TNFα: 17 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-937 whole cell lysate: sc-2239 or K-562 whole cell lysate: sc-2203.

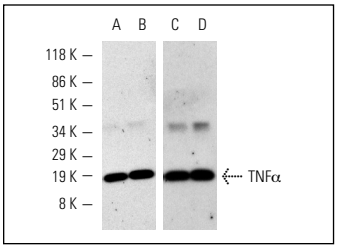
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

DATA



Western blot analysis of mouse recombinant TNFα. Antibodies tested include: TNFα (M-18): sc-1348 (**A**,**B**) and TNFα (R-19): sc-1349 (**C**,**D**).

SELECT PRODUCT CITATIONS

1. Penkowa, M., et al. 2001. Metallothionein treatment reduces proinflammatory cytokines IL-6 and TNFα and apoptotic cell death during experimental autoimmune encephalomyelitis (EAE). Exp. Neurol. 170: 1-14.
2. Solis-Soto, J.M., et al. 2008. *In situ* detection and distribution of inflammatory cytokines during the course of infection with *Nocardia brasiliensis*. Histol. Histopathol. 23: 573-581.
3. Niemann, C.U., et al. 2008. Short passive cooling protects rats during hepatectomy by inducing heat shock proteins and limiting the induction of pro-inflammatory cytokines. J. Surg. Res. 158: 43-52.
4. Salinas-Carmona, M.C., et al. 2009. Spontaneous arthritis in MRL/LPR mice is aggravated by *Staphylococcus aureus* and ameliorated by *Nippostrongylus brasiliensis* infections. Autoimmunity 42: 25-32.
5. Saygin, M., et al. 2011. Testicular apoptosis and histopathological changes induced by a 2.45 GHz electromagnetic field. Toxicol. Ind Health 27: 455-463.
6. Lettieri Barbato, D., et al. 2014. Proline oxidase-adipose triglyceride lipase pathway restrains adipose cell death and tissue inflammation. Cell Death Differ. 21: 113-123.
7. Lazaro, I., et al. 2015. Targeting HSP90 ameliorates nephropathy and atherosclerosis through suppression of NF-κB and STAT signaling pathways in diabetic mice. Diabetes 64: 3600-3613.

RESEARCH USE

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