SANTA CRUZ BIOTECHNOLOGY, INC.

TNF-R1 (N-20): sc-1067

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.

CHROMOSOMAL LOCATION

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

SOURCE

TNF-R1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TNF-R1 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-1067 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TNF-R1 (N-20) is recommended for detection of TNF-R1 of human and, to a lesser extent, 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 TNF-R1: 55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or U-937 cell lysate: sc-2239.

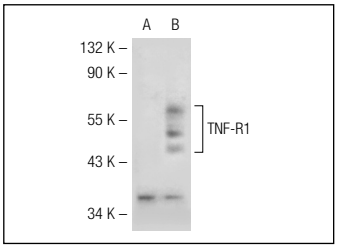
STORAGE

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

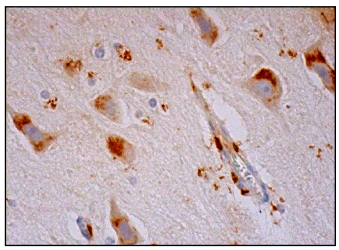
RESEARCH USE

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

DATA



TNF-R1 (N-20): sc-1067. Western blot analysis of TNF-R1 expression in non-transfected: sc-117752 (**A**) and mouse TNF-R1 transfected: sc-124202 (**B**) 293T whole cell lysates.



TNF-R1 (N-20): sc-1067. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells, glial cells and endothelial cells.

SELECT PRODUCT CITATIONS

1. St. Louis, D.C., et al. 1999. Evidence for distinct intracellular signaling pathways in CD34+ progenitor to dendritic cell differentiation from a human cell line model. J. Immunol. 162: 3237-3248.
2. Vertrees, R.A., et al. 2004. Smoke/burn injury-induced respiratory failure elicits apoptosis in ovine lungs and cultured lung cells, ameliorated with arteriovenous CO2 removal. Chest 125: 1472-1482.
3. Rodriguez, D.A., et al. 2004. Ethanol increases tumor necrosis factor-α receptor-1 (TNF-R1) levels in hepatic, intestinal, and cardiac cells. Alcohol 33: 9-15.
4. Garcia-Tunon, I., et al. 2006. Role of tumor necrosis factor-α and its receptors in human benign breast lesions and tumors (*in situ* and infiltrative). Cancer Sci. 97: 1044-1049.
5. Nuñez, C., et al. 2008. TNF/IL-1/NIK/NFκB transduction pathway: a comparative study in normal and pathological human prostate (benign hyperplasia and carcinoma). Histopathology 53: 166-176.
6. Bouraoui, Y., et al. 2008. Pro-inflammatory cytokines and prostate-specific antigen in hyperplasia and human prostate cancer. Cancer Detect. Prev. 32: 23-32.
7. Peluffo, M.C., et al. 2009. Expression and regulation of tumor necrosis factor (TNF) and TNF-receptor family members in the macaque corpus luteum during the menstrual cycle. Mol. Reprod. Dev. 76: 367-378.
8. Woclawek-Potocka, I., et al. 2013. Effects of lysophopatidic acid on tumor necrosis factor α and interferon γ action in the bovine corpus luteum. Mol. Cell. Endocrinol. 377: 103-111.