SANTA CRUZ BIOTECHNOLOGY, INC.

TNF-R1 (E-11): sc-374186

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 termed 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 (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 427-454 at the C-terminus of TNF-R1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374186 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

TNF-R1 (E-11) is recommended for detection of TNF-R1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

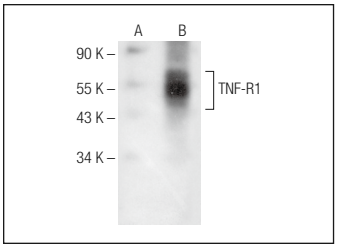
Molecular Weight of TNF-R1: 55 kDa.

Positive Controls: TNF-R1 (m): 293T Lysate: sc-124202.

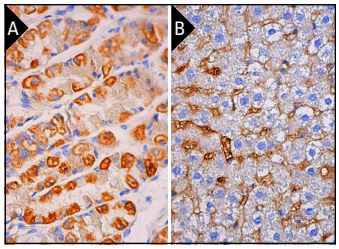
RESEARCH USE

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

DATA



TNF-R1 (E-11): sc-374186. 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 (E-11): sc-374186. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells (**A**) and rat liver tissue showing cytoplasmic staining of hepatic sinusoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Gómez-Hernández, A., et al. 2013. Implication of Insulin receptor A isoform and IRA/IGF-IR hybrid receptors in the aortic vascular smooth muscle cell proliferation: role of TNF-α and IGF-II. Endocrinology 154: 2352-2364.
2. Wang, A., et al. 2017. Tetramethylpyrazine reduces blood-brain barrier permeability associated with enhancement of peripheral cholinergic anti-inflammatory effects for treating traumatic brain injury. Exp. Ther. Med. 14: 2392-2400.
3. Tian, R.D., et al. 2020. Phosphorylation of eIF2α mitigates endoplasmic reticulum stress and hepatocyte necroptosis in acute liver injury. Ann. Hepatol. 19: 79-87.
4. Murphy, J.M., et al. 2021. Focal adhesion kinase activity and localization is critical for TNF-α-induced nuclear factor-κB activation. Inflammation 44: 1130-1144.
5. Kim, S.H. 2022. The role of TNFTNFα/p53 pathway in endometrial cancer mouse model administered with apple seed extract. Histol. Histopathol. 37: 169-180.
6. Chen, X., et al. 2023. Regulatory roles of SP-A and exosomes in pneumonia-induced acute lung and kidney injuries. Front. Immunol. 14: 1188023.

PROTOCOLS

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

CONJUGATES

See **TNF-R1 (H-5): sc-8436** for TNF-R1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.