

TNF-R1 (H398): sc-52739

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.

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, TNFR1 and TNFR2, on human chromosomes 12 and 1. *Somat. Cell Mol. Genet.* 17: 519-523.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF1A (human) mapping to 12p13.31.

SOURCE

TNF-R1 (H398) is a mouse monoclonal antibody raised against HL-60 acute promyelocytic leukemia cell line of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TNF-R1 (H398) is recommended for detection of the extracellular and soluble TNF-R1 receptors of 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for TNF-R1 siRNA (h): sc-29507, TNF-R1 shRNA Plasmid (h): sc-29507-SH and TNF-R1 shRNA (h) Lentiviral Particles: sc-29507-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.

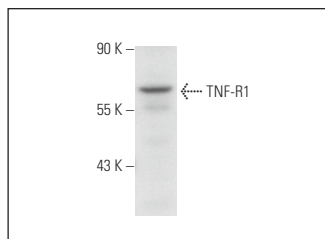
STORAGE

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 (H398): sc-52739. Western blot analysis of TNF-R1 expression in 293T whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lee, I.T., et al. 2010. TNF- α induces matrix metalloproteinase-9 expression in A549 cells: role of TNFR1/TRAF2/PKC α -dependent signaling pathways. *J. Cell. Physiol.* 224: 454-464.
2. Kerstan, A., et al. 2011. Decisive role of tumor necrosis factor- α for spongiosis formation in acute eczematous dermatitis. *Arch. Dermatol. Res.* 303: 651-658.
3. Zhang, Y., et al. 2011. High glucose induces dysfunction and apoptosis in endothelial cells: is the effect of high glucose persistence more important than concentration? *Exp. Clin. Endocrinol. Diabetes* 119: 225-233.
4. Lin, C.C., et al. 2015. Tumor necrosis factor- α induces VCAM-1-mediated inflammation via c-Src-dependent transactivation of EGF receptors in human cardiac fibroblasts. *J. Biomed. Sci.* 22: 53.
5. Lee, I.T., et al. 2015. TNF- α mediates PKC δ /JNK1/2/c-Jun-dependent monocyte adhesion via ICAM-1 induction in human retinal pigment epithelial cells. *PLoS ONE* 10: e0117911.
6. Lin, H.R., et al. 2016. Diminished COX-2/PGE2-mediated antiviral response due to impaired NOX/MAPK signaling in G6PD-knockdown lung epithelial cells. *PLoS ONE* 11: e0153462.
7. Lin, C.C., et al. 2016. TNF- α -induced cPLA₂ expression via NADPH oxidase/reactive oxygen species-dependent NF κ B cascade on human pulmonary alveolar epithelial cells. *Front. Pharmacol.* 7: 447.
8. Yang, C.M., et al. 2022. Tumor necrosis factor- α -induced C-C motif chemokine ligand 20 expression through TNF receptor 1-dependent activation of EGFR/p38 MAPK and JNK1/2/FoxO1 or the NF κ B pathway in human cardiac fibroblasts. *Int. J. Mol. Sci.* 23: 9086.



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.