

# TNF $\alpha$ (M-18): sc-1348

## BACKGROUND

Tumor necrosis factor  $\beta$  (TNF $\beta$ ), also known as lymphotoxin, is a pleiotropic cytokine. TNF $\alpha$ , also known as cachectin, is a smaller cytokine that binds to the same receptors producing a vast array of effects similar to those of TNF $\beta$ . TNF $\beta$  and TNF $\alpha$  share 30% amino acid homology and have similar biological activities. TNF $\beta$  is produced by activated lymphocytes, including CD4<sup>+</sup> T helper cell type 1 lymphocytes, CD8<sup>+</sup> lymphocytes and certain B lymphoblastoid cell lines. TNF $\alpha$  is produced by several different cell types, which include lymphocytes, neutrophils and macrophages. TNF $\alpha$  and TNF $\beta$  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 (human) mapping to 6p21.33; Tnf (mouse) mapping to 17 B1.

## SOURCE

TNF $\alpha$  (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TNF $\alpha$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1348 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TNF $\alpha$  (M-18) is recommended for detection of TNF $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TNF $\alpha$  (M-18) is also recommended for detection of TNF $\alpha$  in additional species, including equine, canine, bovine, porcine and feline.

Suitable for use as control antibody for TNF $\alpha$  siRNA (h): sc-37216, TNF $\alpha$  siRNA (m): sc-37217, TNF $\alpha$  shRNA Plasmid (h): sc-37216-SH, TNF $\alpha$  shRNA Plasmid (m): sc-37217-SH, TNF $\alpha$  shRNA (h) Lentiviral Particles: sc-37216-V and TNF $\alpha$  shRNA (m) Lentiviral Particles: sc-37217-V.

Molecular Weight of transmembrane TNF $\alpha$ : 26 kDa.

Molecular Weight of soluble TNF $\alpha$ : 17 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

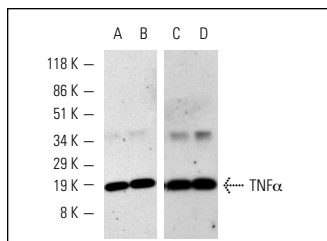
## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

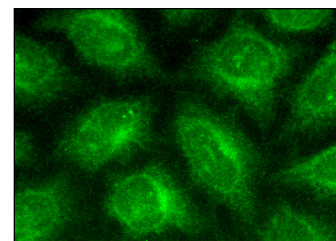
## RESEARCH USE

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

## DATA



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



TNF $\alpha$  (M-18): sc-1348. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Rosenfeld, M., et al. 1999. Prevention of hepatic apoptosis and embryonic lethality in RelA/TNF-R1 double knockout mice. *Am. J. Pathol.* 156: 997-1007.
- Georgieva, G.S., et al. 2006. Prevention of ischemia reperfusion injury by positive pulmonary venous pressure in isolated rat lung. *Shock* 25: 66-72.
- Pesic, V., et al. 2009. Potential mechanism of cell death in the developing rat brain induced by propofol anesthesia. *Int. J. Dev. Neurosci.* 27: 279-287.
- Gesslein, B., et al. 2010. Tumor necrosis factor and its receptors in the neuroretina and retinal vasculature after ischemia-reperfusion injury in the pig retina. *Mol. Vis.* 16: 2317-2327.
- Kitamura, K., et al. 2011. Eicosapentaenoic acid prevents atrial fibrillation associated with heart failure in a rabbit model. *Am. J. Physiol. Heart Circ. Physiol.* 300: H1814-H1821.
- Eliyahu, E., et al. 2011. Anti-TNF- $\alpha$  therapy enhances the effects of enzyme replacement therapy in rats with mucopolysaccharidosis type VI. *PLoS ONE* 6: e22447.
- Vieira, R.P., et al. 2012. Anti-inflammatory effects of aerobic exercise in mice exposed to air pollution. *Med. Sci. Sports Exerc.* 44: 1227-1234.
- Renner, N.A., et al. 2012. Microglia activation by SIV-infected macrophages: alterations in morphology and cytokine secretion. *J. Neurovirol.* 18: 213-221.



Try **TNF $\alpha$  (C-4): sc-133192** or **TNF $\alpha$  (TN3-19.12): sc-12744**, our highly recommended monoclonal alternatives to TNF $\alpha$  (M-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **TNF $\alpha$  (C-4): sc-133192**.