

# TNF $\beta$ (H-171): sc-8302

## BACKGROUND

Tumor necrosis factor b (TNFb), 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, including 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.

## REFERENCES

1. Nedwin, G.E., et al. 1985. Human lymphotoxin and tumor necrosis factor genes: structure, homology and chromosomal localization. *Nucleic Acids Res.* 13: 6361-6373.
2. Aggarwal, B.B., et al. 1985. Human tumor necrosis factor. Production, purification, and characterization. *J. Biol. Chem.* 260: 2345-2354.
3. Vilcek, J., et al. 1991. Tumor necrosis factor. New insights into the molecular mechanisms of its multiple actions. *J. Biol. Chem.* 266: 7313-7316.
4. Tartaglia, L.A., et al. 1993. Tumor necrosis factor's cytotoxic activity is signaled by the p55 TNF receptor. *Cell* 73: 213-216.
5. De Togni, P., et al. 1994. Abnormal development of peripheral lymphoid organs in mice deficient in lymphotoxin. *Science* 264: 703-707.
6. Qin, Z., et al. 1995. Tumor growth inhibition mediated by lymphotoxin: evidence of B lymphocyte involvement in the antitumor response. *Cancer Res.* 55: 4747-4751.

## CHROMOSOMAL LOCATION

Genetic locus: LTA (human) mapping to 6p21.33; Lta (mouse) mapping to 17 B1.

## SOURCE

TNF $\beta$  (H-171) is a rabbit polyclonal antibody raised against amino acids 35-205 of TNF $\beta$  of human origin.

## PRODUCT

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

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

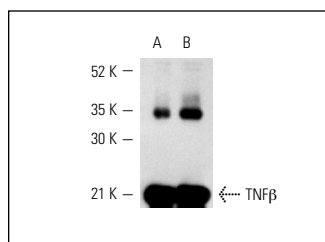
## APPLICATIONS

TNF $\beta$  (H-171) is recommended for detection of TNF $\beta$  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), 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).

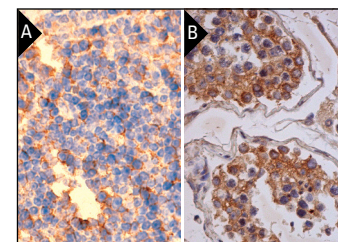
Suitable for use as control antibody for TNF $\beta$  siRNA (h): sc-37218, TNF $\beta$  siRNA (m): sc-37219, TNF $\beta$  shRNA Plasmid (h): sc-37218-SH, TNF $\beta$  shRNA Plasmid (m): sc-37219-SH, TNF $\beta$  shRNA (h) Lentiviral Particles: sc-37218-V and TNF $\beta$  shRNA (m) Lentiviral Particles: sc-37219-V.

Molecular Weight of TNF $\beta$ : 19-25 kDa.

## DATA



TNF $\beta$  (H-171): sc-8302. Western blot analysis of human recombinant TNF $\beta$  (A,B).



TNF $\beta$  (H-171): sc-8302. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse spleen tissue showing extracellular localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (B).

## SELECT PRODUCT CITATIONS

1. 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.
2. Jana, M., et al. 2009. Induction of lymphotoxin- $\alpha$  by interleukin-12 p40 homodimer, the so-called biologically inactive molecule, but not IL-12 p70. *Immunology* 127: 312-325.
3. Song, L.L., et al. 2010. Interferon-inducible IFI16, a negative regulator of cell growth, down-regulates expression of human telomerase reverse transcriptase (hTERT) gene. *PLoS ONE* 5: e8569.

## RESEARCH USE

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



Try **TNF $\beta$  (E-6): sc-28345** or **TNF $\beta$  (D-10): sc-48410**, our highly recommended monoclonal alternatives to TNF $\beta$  (H-171).