# SANTA CRUZ BIOTECHNOLOGY, INC.

# TNFα (E7D2): sc-101425



## 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+ T helper cell type 1 lymphocytes, CD8+ 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.

#### REFERENCES

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- 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.
- De Togni, P., et al. 1994. Abnormal development of peripheral lymphoid organs in mice deficient in lymphotoxin. Science 264: 703-707.
- 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.
- Sarin, A., et al. 1995. Cytotoxic effect of TNF and lymphotoxin on T lymphoblasts. J. Immunol. 155: 3716-3718.
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## CHROMOSOMAL LOCATION

Genetic locus: TNF (human) mapping to 6p21.33.

#### SOURCE

 $TNF\alpha$  (E7D2) is a mouse monoclonal antibody raised against recombinant  $TNF\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  lgG  $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

TNF $\alpha$  (E7D2) is recommended for detection of TNF $\alpha$  of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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

Molecular Weight of soluble TNFa: 17 kDa.

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

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

# **RESEARCH USE**

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

## PROTOCOLS

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



See **TNF** $\alpha$  (C-4): sc-133192 for TNF $\alpha$  antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.