

Product Information

Anti-Tumor Necrosis Factor- α

produced in goat, affinity isolated antibody

Catalog Number **T0813**

Product Description

Anti-Tumor Necrosis Factor- α (TNF- α) is produced in goat using as immunogen recombinant human TNF- α (rhTNF- α) expressed in *E. coli*. The antibody is purified using human TNF- α affinity chromatography.

Anti-Tumor Necrosis Factor- α will neutralize the biological activity of rhTNF- α . The antibody may also be used in immunoblotting and immunohistology. Based on immunoblotting, the antibody shows <10% cross-reactivity with rrTNF- α and <5% cross-reactivity with rmTNF- α .

Tumor Necrosis Factor- α is a protein secreted by lipopolysaccharide-stimulated macrophages, and causes tumor necrosis *in vivo* when injected into tumor-bearing mice.¹ Also known as cachectin, TNF- α is believed to mediate pathogenic shock and tissue injury associated with endotoxemia.² TNF- α exists as a multimer of two, three, or five non-covalently linked units, but shows a single 17 kDa band with SDS-PAGE under non-reducing conditions.³ TNF- α is closely related to the 25 kDa protein Tumor Necrosis Factor- β (lymphotoxin), sharing the same receptors and cellular actions.⁴ TNF- α causes cytolysis or cytostasis of certain transformed cells,^{5,6} being synergistic with interferon- γ in its cytotoxicity.⁷ Although it has little effect on many cultured normal human cells,⁶ TNF- α appears to be directly toxic to vascular endothelial cells.⁸ Other actions of TNF- α include stimulating growth of human fibroblasts and other cell lines,⁹ activating polymorphonuclear neutrophils¹⁰ and osteoclasts,¹¹ and inducing of interleukin-1, prostaglandin E₂ and collagenase production.^{12,13} TNF- α is currently being evaluated in treatment of certain cancers and AIDS-Related Complex.

Reagent

Lyophilized from a 0.2 μ m filtered solution of phosphate buffered saline containing 5% trehalose.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 μ m-filtered PBS to produce a 0.1 mg/mL stock solution of antibody. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Avoid repeated freezing and thawing.

Procedure

The antibody is tested for its ability to neutralize the bioactivity of rhTNF- α in a cytotoxicity assay using murine L-929.¹⁴

In this bioassay, rhTNF- α is preincubated with various dilutions of the antibody for 1 hour at 37 °C in a 96 well plate. Confluent cultures of L-929 cells are added to each well. The total volume of 150 μ L, containing antibody, rhTNF- α at 0.25 ng/mL, and actinomycin D at 1 μ g/mL, is incubated for 24 hours at 37 °C in a 5% CO₂ humidified incubator. Cells are fixed with 5% formaldehyde and stained with crystal violet. The stain is dissolved with 100 μ L of 33% acetic acid and the absorbance at 540 nm is measured.

The ND₅₀ of the antibody is typically 0.01-0.06 μ g/mL in the presence of 1.5 ng/mL Recombinant Human TNF- α .

Product Profile

Endotoxin Level: <0.1 EU per 1 µg of the antibody by the LAL method

Immunoblotting: 0.1 µg/mL antibody detects rhTNF-α.

Immunohistochemistry: 5-15 µg/mL may be used to detect TNF-α in cultured cells or tissue sections.

References

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