

## Product Information

### ANTI-HUMAN TUMOR NECROSIS FACTOR- $\beta$ (TNF- $\beta$ )

Developed in Goat  
IgG Fraction of Antiserum

Product No. T3176

#### Product Description

Anti-Human TNF- $\beta$  is developed in goat using recombinant human tumor necrosis factor- $\beta$  (TNF- $\beta$ ), expressed in *E. coli*, as the immunogen. The product is purified by Protein G affinity chromatography. Goat Anti-TNF- $\beta$  is provided lyophilized from phosphate buffered saline (PBS), pH 7.4, to which no preservatives have been added.

Tumor Necrosis Factor- $\beta$  (TNF- $\beta$ , also known as lymphotoxin, is a lymphokine secreted by mitogen-activated T cells. It was initially identified as a mediator of cell-mediated hypersensitivity and a cytotoxic agent to several tumor cell lines.<sup>1,2,3</sup> Anti-Human TNF- $\beta$  neutralizes the bioactivity of rhTNF- $\beta$  and natural human TNF- $\beta$ . It will not neutralize the biological activity of human or mouse TNF- $\alpha$ .

#### Performance

Anti-Human TNF- $\beta$  is tested for its ability to neutralize the biological activity of rhTNF- $\beta$  on L929 cells. The ND<sub>50</sub> of the antibody is defined as the concentration of antibody required for one-half maximal inhibition of bioactivity of rhTNF- $\beta$  which is present at 5 times its own EC<sub>50</sub> (the concentration of rhTNF- $\beta$  producing a one-half maximal bioactivity without antibody). In this bioassay, rhTNF- $\beta$  was pre-incubated with various dilutions of the antibody in culture medium containing actinomycin D for 1 hour at 37°C in a 96-well microtiter plate. Following this pre-incubation period, the antibody-antigen mixture was added to confluent cultures of L929 cells in 96-well microtiter plates to give a final concentration of 1 ng/ml rhTNF- $\beta$  and 1.0  $\mu$ g/ml actinomycin D in 0.1 ml. This was incubated for 24 hours at 37°C in a 5% CO<sub>2</sub> humidified incubator and then fixed with 5% formaldehyde and stained with crystal violet.

#### Product Information

Mass/vial: 1.0 mg  
Immunogen: Human, recombinant TNF- $\beta$   
Host Animal: Goat  
Formulation: Lyophilized from PBS without additives  
Endotoxin: <10 ng/mg by LAL method  
Bioactivity: ND<sub>50</sub> = 0.1-1.6  $\mu$ g/ml  
Indirect ELISA: 1.0  $\mu$ g/ml antibody detects 0.6 ng/well of rhTNF- $\beta$   
Indirect  
Immunoblotting: 2  $\mu$ g/ml antibody detects rhTNF- $\beta$  at 5 ng/lane.  
Sterility: 0.2  $\mu$ m-filtered, aseptic fill

#### Reconstitution and Use

To one vial of lyophilized powder, add 1 ml of 0.2  $\mu$ m-filtered PBS to produce a 1.0 mg/ml stock solution of Anti-Human TNF- $\beta$ . If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

#### Storage

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

#### References

1. Ruddle, N., et al., *Science*, **157**, 1060 (1967).
2. Granger, G., et al., *J. Immuno.*, **101**, 111 (1968).
3. Williams, T., et al., *Nature*, **219**, 1076 (1968).

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