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ProductInformation

Monoclonal Anti-Tumor Necrosis Factor-α (TNF-α)
Clone TN3-19.12
Purified Hamster Immunoglobulin

Product Number **T 2824**

Product Description

Monoclonal Anti-Mouse Tumor Necrosis Factor-α (TNF-α) is derived from the TN3-19.12 hybridoma produced by the fusion of mouse myeloma cells (P3X63-Ag8.653) and splenocytes from male Armenian hamster immunized with purified mouse recombinant TNF-α.[1] The product is provided as a Protein A purified and sterile filtered antibody.

Monoclonal Anti-Tumor Necrosis Factor-α recognizes mouse and rat TNF-α (approx. 17 kDa in its monomer form and 51 kDa in its homotrimer form) and cross-reacts with mouse TNF-β.[1] The product may be used in various immunochemical techniques such as immunoblotting, ELISA, immunoprecipitation, and neutralization.[1]

Tumor necrosis factor (TNF) protein family contains two members: TNF-α (also known as cachectin) and TNF-β (also known as lymphotoxin). These proteins are small molecules with a molecular weight of 17 and 25 kDa respectively, and share 30% amino acid homology. TNF-α and -β are secreted from many different cells such as lymphocytes, neutrophils, and macrophages. Both cytokines bind to the same receptor molecules: TNF receptor 1 (55 kDa) and TNF receptor 2 (75 kDa), and cause a vast array of effects.[2-4]

Many substances can induce the production of TNF in cells, but bacterial cell wall products, such as lipopolysaccharide, are among the most potent inducers. TNF-α is a major mediator of inflammatory responses and its over-production results in extensive tissue damage associated with endotoxemia and cachexia. High serum levels of TNF are associated with septic shock, rejection of renal transplants, parasitic infections, and various neoplastic diseases. TNF-α exhibits growth-enhancing activities for normal cells like fibroblasts, T and B cells, activation of endothelial cells, and differentiation of myeloid cells.[5]

In neoplastic cells, TNF-α exerts growth inhibitory activities that can be either cytostatic or cytotoxic. Monoclonal antibodies to TNF-α are useful tools for the determination and quantification of the TNF-α molecule in many *in vitro* and *in vivo* systems.

Reagent

Monoclonal Anti-Mouse Tumor Necrosis Factor-α is supplied as a sterile filtered solution in 0.01 M phosphate buffered saline, pH 7.4.

Antibody Concentration: Approx. 2 mg/ml.

Storage/Stability

For continuous use, store sterile at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a minimum working concentration of 0.25-0.5 µg/ml is recommended using recombinant mouse TNF-α (Product No. T 7539) and Anti-Hamster Ig, Peroxidase conjugate (Product No. A 7851).

Note: In order to obtain the best results using different techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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4. Vilcek, J., and Lee, T.H., J. Biol. Chem., **266**, 7313-7316 (1991).
5. Beutler, B., and Cerami, A., Biochemistry, **27**, 7575-7582 (1988).

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