General Information

Immunogen: Recombinant Human TNF-alpha / TNFA Protein (Catalog#10602-HNAE)
Clone ID: MM0N1
Ig Type: Mouse IgG1
Applications: Neutralization
Specificity: Human TNF-alpha / TNFA
Formulation: 0.2 μm filtered solution in PBS
Storage: < -20°C

Preparation
This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, recombinant Human TNF-alpha / TNFA (rh TNF-alpha / TNFA; Catalog#10602-HNAE; NP_000585.2; Val77-Leu233). The IgG fraction of the cell culture supernatant was purified by Protein A affinity chromatography.

Specificity
Human TNF-alpha / TNFA

Storage
This antibody can be stored at 2°C-8°C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20°C to -80°C. Preservative-Free. Sodium azide is recommended to avoid contamination (final concentration 0.05%-0.1%). It is toxic to cells and should be disposed of properly. Avoid repeated freeze-thaw cycles.

Background
Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment.

Reference
Applications

**Block**

In a functional ELISA which immobilized recombinant Human TNFR1 (Catalog#10872-H08H) at 1 µg/mL (100 µL/well) in the plate, the Mouse Anti-Human TNFα Monoclonal Antibody (Catalog#10602-MM0N1) can block the binding of 0.2 µg/mL of biotinylated Human TNFα (Catalog#10602-HNAE) to human TNFR1, the EC50 is 0.74 µg/mL;

In a functional ELISA which immobilized recombinant Human TNFR2 (Catalog#10417-H08H) at 2 µg/mL (100 µL/well) in the plate, the Mouse Anti-Human TNFα Monoclonal Antibody (Catalog#10602-MM0N1) can block the binding of 0.2 µg/mL of biotinylated Human TNFα (Catalog#10602-HNAE) to human TNFR1, the EC50 is 0.82 µg/mL.

**Neutralization** – The neutralization activity of antibody is measured by its ability to neutralize TNFα induced cytotoxicity in the L-929 mouse fibroblast cell line. The Neutralization titer (IC50) is typically 13.5-54 ng/mL in the presence of 2 ng/mL Recombinant Human TNFα and 1 µg/mL actinomycin D.

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**The neutralization activity of TNFα antibody**

![Graph showing the neutralization activity of TNFα antibody](image)

Cytotoxicity Induced by TNFα was Neutralized by Human TNFα Antibody. Recombinant Human TNFα (Catalog 10602-HNAE) induces cytotoxicity in the L-929 mouse fibroblast cell line. Cytotoxicity elicited by Recombinant Human TNFα (2ng/mL) is neutralized by increasing concentrations of Mouse Anti Human TNFα Rabbit Antibody (Catalog#10602-MM01). The IC50 is typically 13.5-54 ng/mL in the presence of the metabolic inhibitor actinomycin D (1 µg/mL).