

# TNF-alpha (Tumor Necrosis Factor alpha) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone J2D10 ]  
Catalog # AH12435

## Product Information

---

Application	IF, FC
Primary Accession	<a href="#">P01375</a>
Other Accession	<a href="#">7124</a> , <a href="#">241570</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	J2D10
Calculated MW	25644

## Additional Information

---

Gene ID	7124
Other Names	Tumor necrosis factor, Cachectin, TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a, Tumor necrosis factor, membrane form, N-terminal fragment, NTF, Intracellular domain 1, ICD1, Intracellular domain 2, ICD2, C-domain 1, C-domain 2, Tumor necrosis factor, soluble form, TNF, TNFA, TNFSF2
Application Note	IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	TNF-alpha (Tumor Necrosis Factor alpha) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

---

Name	TNF
Synonyms	TNFA, TNFSF2
Function	Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation. Impairs regulatory T- cells (Treg) function in individuals with rheumatoid arthritis via FOXP3 dephosphorylation. Up-regulates the

expression of protein phosphatase 1 (PP1), which dephosphorylates the key 'Ser-418' residue of FOXP3, thereby inactivating FOXP3 and rendering Treg cells functionally defective (PubMed:[23396208](#)). Key mediator of cell death in the anticancer action of BCG-stimulated neutrophils in combination with DIABLO/SMAC mimetic in the RT4v6 bladder cancer cell line (PubMed:[16829952](#), PubMed:[22517918](#), PubMed:[23396208](#)). Induces insulin resistance in adipocytes via inhibition of insulin-induced IRS1 tyrosine phosphorylation and insulin-induced glucose uptake. Induces GKAP42 protein degradation in adipocytes which is partially responsible for TNF-induced insulin resistance (By similarity). Plays a role in angiogenesis by inducing VEGF production synergistically with IL1B and IL6 (PubMed:[12794819](#)). Promotes osteoclastogenesis and therefore mediates bone resorption (By similarity).

#### Cellular Location

Cell membrane; Single-pass type II membrane protein [Tumor necrosis factor, soluble form]; Secreted [C-domain 2]; Secreted.

## Background

---

This antibody neutralises HurTNF-mediated cytotoxicity of L929 cells and inhibits tumour growth in mice. It protects mice against toxicity of HurTNF $\alpha$ . Tumor Necrosis Factor Alpha (TNF  $\alpha$ ) is a protein secreted by lipopolysaccharide-stimulated macrophages, and causes tumor necrosis when injected into tumor-bearing mice. TNF  $\alpha$  is believed to mediate pathogenic shock and tissue injury associated with endotoxemia. TNF  $\alpha$  exists as a multimer of two, three, or five non-covalently linked units, but shows a single 17kDa band following SDS PAGE under non-reducing conditions. TNF  $\alpha$  is closely related to the 25kDa protein Tumor Necrosis Factor beta (lymphotoxin), sharing the same receptors and cellular actions. TNF  $\alpha$  causes cytolysis of certain transformed cells, being synergistic with interferon gamma in its cytotoxicity. Although it has little effect on many cultured normal human cells, TNF  $\alpha$  appears to be directly toxic to vascular endothelial cells. Other actions of TNF  $\alpha$  include stimulating growth of human fibroblasts and other cell lines, activating polymorphonuclear neutrophils and osteoclasts, and induction of interleukin 1, prostaglandin E2 and collagenase production.

## References

---

McLaughlin PJ; Elwood NJ; Russell SM; Andrew SM; McKenzie IF. Properties of monoclonal antibodies to human tumor necrosis factor alpha (TNF  $\alpha$ ). *Anticancer Research*, 1992, 12(4):1243-6. | McLaughlin PJ; Elwood NJ; Ramadi LT, Pica MR, McKenzie IF. Improvement in sensitivity of enzyme-linked immunosorbent assay for tumor necrosis factor. *Immunol Cell Biol*, 1990, 68:51-5

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.