

**TNF-alpha Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1134a****Specification**

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**TNF-alpha Antibody - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">P01375</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>

**Description**

TNF-alpha (tumor necrosis factor alpha) is an important cytokine produced by numerous cell types including neutrophils, activated lymphocytes, macrophages and NK cells. It plays a critical role in inflammatory responses and in apoptosis. 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 17 kDa band following SDS PAGE under non reducing conditions. 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. TNF-alpha is currently being evaluated in treatment of certain cancers and AIDS Related Complex.

**Immunogen**

Recombinant Human TNF-alpha (BioSource company, Cat.No. PHC3013)

**Formulation**

Purified antibody in PBS containing 0.03% sodium azide.

**TNF-alpha Antibody - 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

**Dilution**

WB~~1/500 - 1/2000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

TNF-alpha Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## TNF-alpha Antibody - 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: <a href="http://www.uniprot.org/citations/23396208" target="\_blank">23396208</a>). 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: <a href="http://www.uniprot.org/citations/16829952" target="\_blank">16829952</a>, PubMed: <a href="http://www.uniprot.org/citations/22517918" target="\_blank">22517918</a>, PubMed: <a href="http://www.uniprot.org/citations/23396208" target="\_blank">23396208</a>). 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: <a href="http://www.uniprot.org/citations/12794819" target="\_blank">12794819</a>). Promotes osteoclastogenesis and therefore mediates bone resorption (By similarity).

### Cellular Location

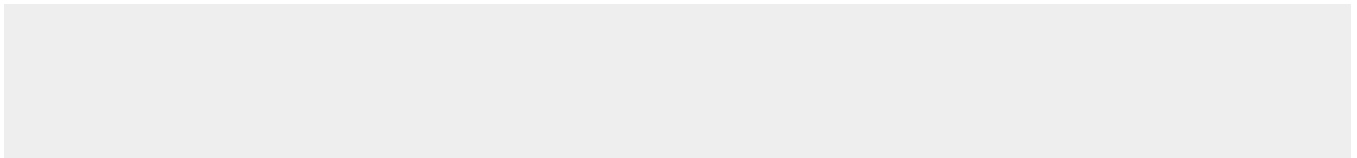
Cell membrane; Single-pass type II membrane protein [Tumor necrosis factor, soluble form]: Secreted [C-domain 2]: Secreted.

## TNF-alpha Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## TNF-alpha Antibody - Images



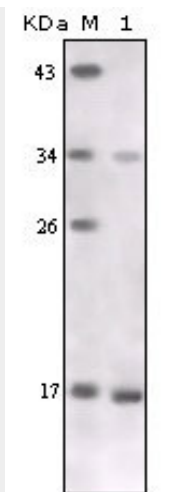


Figure 1: Western blot analysis using TNF-alpha mouse mAb against TNF-alpha recombinant protein.

#### **TNF-alpha Antibody - References**

1. Knowlton KU. Yajima T. J Am Coll Cardiol. 2004, Sep 15, 44(6):1298-300.
2. Reynolds JL. Ignatowski TA. Gallant S. et al. Brain Res. 2004, Oct 8, 1023(1):112-20.
3. Dulak J. Tomala K. Loboda A. et al. Life Sci. 2004, Oct 8, 75(21):2573-86.