

## Ultra-LEAF™ Purified anti-human TNF-α Antibody

<b>Catalog# / Size</b>	502805 / 100 µg 502806 / 1 mg
<b>Clone</b>	MAb1
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Tumor necrosis factor-α, Cachectin, Necrosin, Macrophage cytotoxic factor (MCF), Differentiation inducing factor (DIF), TNFSF2
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	TNF-α is secreted by macrophages, monocytes, neutrophils, T-cells, and NK-cells. Many transformed cell lines also secrete TNF-α. Monomeric human TNF-α is a 157 amino acid protein (non-glycosylated) with a reported molecular weight of 17 kD. TNF-α forms multimeric complexes; stable trimers are most common in solution. A 26 kD membrane form of TNF-α has also been described. TNF-α binding to surface receptors elicits a wide array of biologic activities including: cytolysis and cytostasis of many tumor cell lines <i>in vitro</i> , hemorrhagic necrosis of tumors <i>in vivo</i> , increased fibroblast proliferation, and enhanced chemotaxis and phagocytosis in neutrophils. The MAb1 antibody can neutralize the bioactivity of natural or recombinant TNF-α.

### Product Details

---

<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	<i>E. coli</i> -expressed, recombinant human TNF-α
<b>Formulation</b>	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
<b>Preparation</b>	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
<b>Concentration</b>	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
<b>Application</b>	<a href="#">ELISA Capture - Quality tested</a> <a href="#">ELISPOT Capture, Neut. WB - Reported in the literature, not verified in house</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">ELISA assay</a> . For use as an ELISPOT capture antibody, a concentration range of 0.25 - 1.0 µg/ml is recommended. For ELISA capture applications, a concentration range of 1.0 - 4.0 µg/ml is recommended. To obtain a linear standard curve, serial dilutions of TNF-α recombinant protein ranging from 500 to 4 pg/ml are recommended for each ELISA plate. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	<b>ELISA or ELISPOT Capture:</b> The purified MAb1 antibody is useful in neutralization <sup>2</sup> and as the capture antibody in a sandwich ELISA or ELISPOT assay, when used in conjunction with the biotinylated MAb11 antibody (Cat. No. 502904/502914) as the detecting antibody. The Ultra-LEAF™ purified antibody is suggested for ELISPOT capture.
<b>Application References</b>	1. Rathjen, D., <i>et al.</i> 1991. <i>Mol. Immunol.</i> 28:79. 2. Verschoor CP, <i>et al.</i> 2015. <i>Mol. Immunol.</i> 65:148. (Neut) <a href="#">Pubmed</a> 3. Wyant, T. L., <i>et al.</i> 1999. <i>Infect. Immun.</i> 67:1338. 4. Nichols, J. E., <i>et al.</i> 2001. <i>J. Virol.</i> 73:5921. 5. Ivanov, VN, <i>et al.</i> 1999. <i>J. Biol Chem.</i> 274:14079. <a href="#">PubMed</a>
<b>(PubMed link indicates BioLegend citation)</b>	

6. Varadarajan N, et al. 2012. PNAS. 109:3885. [PubMed](#).

## Product Citations

1. Benjamin Krämer, et al. 2021. Immunity.. Online ahead of print. [PubMed](#)
2. OConnor RA, et al. 2021. OncolImmunology. 10(1):1940675. [PubMed](#)

## RRID

AB\_2814397 (BioLegend Cat. No. 502805)  
AB\_2814398 (BioLegend Cat. No. 502806)

## Antigen Details

---

<b>Structure</b>	TNF superfamily; dimer/trimer; 52 kD (Mammalian)
<b>Bioactivity</b>	Paracrine/endocrine mediator of inflammatory and immune functions; selectively cytotoxic for transformed cells; chemoattractant
<b>Cell Sources</b>	Activated monocytes, neutrophils, macrophages, T cells, B cells, NK cells, LAK cells
<b>Cell Targets</b>	Monocytes, neutrophils, macrophages, T cells, fibroblasts, endothelial cells, osteoclasts, adipocytes, astroglia, microglia
<b>Receptors</b>	TNFRSF1A (TNF-R1, CD120a, TNFR-p60 Type $\beta$ , p55); TNFRSF1B (TNF-R2, CD120b, TNFR-p80 Type A, p75)
<b>Cell Type</b>	Tregs
<b>Biology Area</b>	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience
<b>Molecular Family</b>	Cytokines/Chemokines
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Fitzgerald, K., et al. Eds. 2001. The Cytokine FactsBook. Academic Press, San Diego.</li><li>2. Beutler, B., et al. 1988. <i>Annu. Rev. Biochem.</i> 57:505.</li><li>3. Beutler, B., et al. 1989. <i>Annu. Rev. Immunol.</i> 7:625.</li><li>4. Tracey, K., et al. 1993. <i>Crit. Care Med.</i> 21:S415.</li></ol>
<b>Regulation</b>	Type II integral membrane protein processed by TACE for secretion; upregulated by interferons, IL-2, GM-CSF, substance P, bradykinin, PAF, immune complexes, cyclooxygenase; downregulated by IL-6, TGF- $\beta$ , vitamin D3, prostaglandin E2, PAF antagonists,
<b>Gene ID</b>	<a href="#">7124</a>

## Related Protocols

---

[Active Protocols: Sandwich ELISA - Video](#)

[Sandwich ELISA Protocol](#)

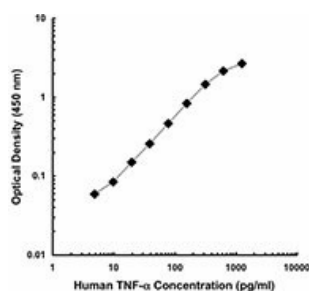
## Other Formats

---

Purified anti-human TNF- $\alpha$ , Ultra-LEAF™ Purified anti-human TNF- $\alpha$

## Product Data

---



For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

8999 BioLegend Way, San Diego, CA 92121 [www.biolegend.com](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587