

## 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

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<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>	<ol style="list-style-type: none"> <li>Rathjen, D., <i>et al.</i> 1991. <i>Mol. Immunol.</i> 28:79.</li> <li>Verschoor CP, <i>et al.</i> 2015. <i>Mol. Immunol.</i> 65:148. (Neut) <a href="#">Pubmed</a></li> <li>Wyant, T. L., <i>et al.</i> 1999. <i>Infect. Immun.</i> 67:1338.</li> <li>Nichols, J. E., <i>et al.</i> 2001. <i>J. Virol.</i> 73:5921.</li> <li>Ivanov, VN, <i>et al.</i> 1999. <i>J. Biol Chem.</i> 274:14079. <a href="#">PubMed</a></li> </ol>

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

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<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

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

[Sandwich ELISA Protocol](#)

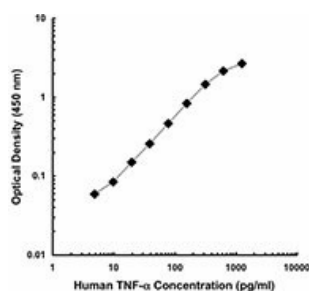
## Other Formats

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

## Product Data

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