

## FITC anti-human TNF- $\alpha$ Antibody

<b>Catalog# / Size</b>	502906 / 100 tests
<b>Clone</b>	MAb11
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Tumor necrosis factor- $\alpha$ , Cachectin, Necrosin, Macrophage cytotoxic factor (MCF), Differentiation inducing factor (DIF), TNFSF2
<b>Isotype</b>	Mouse IgG1, $\kappa$
<b>Description</b>	TNF- $\alpha$ is secreted by macrophages, monocytes, neutrophils, T cells, and NK cells. Many transformed cell lines also secrete TNF- $\alpha$ . Monomeric human TNF- $\alpha$ is a 157 amino acid protein (non-glycosylated) with a reported molecular weight of 17 kD. TNF- $\alpha$ forms multimeric complexes; stable trimers are most common in solution. A 26 kD membrane form of TNF- $\alpha$ has also been described. TNF- $\alpha$ binding to surface receptors elicits a wide array of biological 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.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Cat, Chimpanzee, Baboon, Cynomolgus, Rhesus, Pigtailed Macaque, Sooty Mangabey, Pig
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	<i>E. coli</i> -expressed, recombinant human TNF- $\alpha$
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with FITC under optimal conditions.
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">ICFC - Quality tested</a> <a href="#">FC - 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="#">intracellular immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 $\mu$ l per million cells in 100 $\mu$ l staining volume or 5 $\mu$ l per 100 $\mu$ l of whole blood.
<b>Excitation Laser</b>	Blue Laser (488 nm)
<b>Application Notes</b>	<p><b>ELISA or ELISPOT Detection:</b> The biotinylated MAb11 antibody is useful as the detection antibody in a sandwich ELISA or ELISPOT, when used in conjunction with the purified MAb1 antibody (Cat. No. 502802/502804) as the capture antibody.</p> <p><b>Flow Cytometry</b><sup>3,5,6,10</sup>: The fluorochrome-labeled MAb11 antibody is useful for intracellular and membrane-bound immunofluorescent staining and flow cytometric analysis to identify TNF-<math>\alpha</math>-producing cells within mixed cell populations.</p> <p><b>Additional reported applications (for the relevant formats) include:</b> neutralization<sup>1,2</sup>, immunohistochemical staining of paraformaldehyde-fixed, saponin-treated frozen tissue sections<sup>4</sup> and acetone-fixed frozen tissue sections<sup>8</sup>, immunocytochemistry<sup>7</sup>, and immunofluorescence<sup>9</sup>. The MAb11 antibody can neutralize the bioactivity of natural or recombinant TNF-<math>\alpha</math>.</p> <p><b>Note:</b> For testing human TNF-<math>\alpha</math> in serum or plasma, BioLegend's ELISA Max™ Sets (Cat. No. 430201 to 430206) are specially developed and recommended. The LEAF™ purified antibody (Endotoxin &lt;0.1 EU/<math>\mu</math>g, Azide-Free, 0.2 <math>\mu</math>m filtered) is recommended for neutralization of human TNF-<math>\alpha</math> bioactivity (Cat. No. 502922).</p>

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.

Clone MAb11 cross-reacts to Cat<sup>11</sup>

## Application References

(PubMed link indicates BioLegend citation)

1. Rathjen D, *et al.* 1991. *Mol. Immunol.* 28:79. (Neut)
2. Ablamunits V, *et al.* 2010. *Eur. J. Immunol.* 40:2891. (Neut)
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4. Andersson U, *et al.* 1999. *Detection and quantification of gene expression.* New York:Springer-Verlag. (IHC)
5. Chen H, *et al.* 2005. *J. Immunol.* 175:591. (ICFC)
6. Iwamoto S, *et al.* 2007. *J. Immunol.* 179:1449. (ICFC) [PubMed](#)
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8. Moormann AM, *et al.* 1999. *J. Infect. Dis.* 180:1987. (IHC)
9. Zhao XJ, *et al.* 2003. *J. Immunol.* 170:2923. (IF)
10. Rieger R, *et al.* 2009. *Cancer Gene Ther.* 1:53-64. (FC)
11. Maksaereekul S, *et al.* 2009. *Vaccine.* 28:3754 (FC)

## Product Citations

1. Sugita S, *et al.* 2013. *J Immunol.* 190:5799. [PubMed](#)
2. Gleason M, *et al.* 2014. *Blood.* 123:3016. [PubMed](#)
3. Wang Y, *et al.* 2014. *Sci Rep.* 4:5346. [PubMed](#)
4. Hong S, *et al.* 2015. *Brain Behav Immun.* Available online 20 August 2015. [PubMed](#)
5. Leng T, *et al.* 2019. *Cell Rep.* 28:3077. [PubMed](#)
6. Lamichhane R *et al.* 2019. *Cell Rep.* 28(12):3061-3076 . [PubMed](#)
7. Cruz-Zárate D, *et al.* 2018. *J Immunol.* 201:3401. [PubMed](#)
8. Wu HL, *et al.* 2018. *J Immunol.* 200:49. [PubMed](#)
9. Petrelli A, *et al.* 2018. *J Clin Invest.* 128:4669. [PubMed](#)
10. Om K, *et al.* 2020. *PLoS Pathog.* 16:e1008764. [PubMed](#)
11. Dai Z, *et al.* 2009. *J Exp Med.* 206:793. [PubMed](#)
12. Crostarosa F, *et al.* 2009. *PLoS One.* 4:e8060. [PubMed](#)
13. Vagenas P, *et al.* 2010. *PLoS One.* 5:e12891. [PubMed](#)

## RRID

AB\_315258 (BioLegend Cat. No. 502906)

## Antigen Details

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<b>Structure</b>	TNF superfamily; dimer/trimer; 17 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>	Neutrophils, 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, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press, San Diego.</li><li>2. Beutler B, <i>et al.</i> 1988. <i>Annu. Rev. Biochem.</i> 57:505.</li><li>3. Beutler B, <i>et al.</i> 1989. <i>Annu. Rev. Immunol.</i> 7:625.</li><li>4. Tracey K, <i>et al.</i> 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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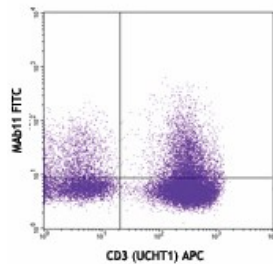
## Other Formats

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APC anti-human TNF- $\alpha$ , Biotin anti-human TNF- $\alpha$ , FITC anti-human TNF- $\alpha$ , PE anti-human TNF- $\alpha$ , Purified anti-human TNF- $\alpha$ , Alexa Fluor<sup>®</sup> 488 anti-human TNF- $\alpha$ , Alexa Fluor<sup>®</sup> 647 anti-human TNF- $\alpha$ , Alexa Fluor<sup>®</sup> 700 anti-human TNF- $\alpha$ , Pacific Blue<sup>™</sup> anti-human TNF- $\alpha$ , PerCP/Cyanine5.5 anti-human TNF- $\alpha$ , PE/Cyanine7 anti-human TNF- $\alpha$ , Brilliant Violet 421<sup>™</sup> anti-human TNF- $\alpha$ , Brilliant Violet 605<sup>™</sup> anti-human TNF- $\alpha$ , Brilliant Violet 650<sup>™</sup> anti-human TNF- $\alpha$ , Brilliant Violet 711<sup>™</sup> anti-human TNF- $\alpha$ , APC/Cyanine7 anti-human TNF- $\alpha$ , Purified anti-human TNF- $\alpha$  (Maxpar<sup>®</sup> Ready), PE/Dazzle<sup>™</sup> 594 anti-human TNF- $\alpha$ , Brilliant Violet 785<sup>™</sup> anti-human TNF- $\alpha$ , Brilliant Violet 510<sup>™</sup> anti-human TNF- $\alpha$ , PerCP anti-human TNF- $\alpha$

## Product Data

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PMA/ionomycin-stimulated (6 hours)  
human peripheral blood lymphocytes  
stained with MAb11 FITC and CD3  
(UCHT1) APC

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