

Alexa Fluor[®] 700 anti-mouse TNF- α Antibody

Catalog# / Size	506338 / 100 μ g
Clone	MP6-XT22
Regulatory Status	RUO
Other Names	Tumor necrosis factor- α , Cachectin, Necrosin, Macrophage cytotoxic factor (MCF), Differentiation inducing factor (DIF), TNFSF-2, TNF-a, TNF-alpha
Isotype	Rat IgG1, κ
Description	TNF- α is secreted by macrophages, monocytes, neutrophils, T-cells, and NK-cells. Many transformed cell lines also secrete TNF- α . Monomeric mouse TNF- α is a 156 amino acid protein (N-glycosylated) with a reported molecular weight of 17.5 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.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	<i>E. coli</i> -expressed, recombinant mouse TNF- α
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor [®] 700 under optimal conditions.
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤ 0.25 μ g per million cells in 100 μ l volume. It is recommended that the reagent be titrated for optimal performance for each application.

* Alexa Fluor[®] 700 has a maximum emission of 719 nm when it is excited at 633 nm / 635 nm. Prior to using Alexa Fluor[®] 700 conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.

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Excitation Laser Red Laser (633 nm)

Application Notes

ELISA or ELISPOT Detection: The biotinylated MP6-XT22 antibody is useful as a detection antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with purified 6B8 antibody (Cat. Nos. 510802 & 510804) as the capture antibody.

ELISA Capture: The purified MP6-XT22 antibody is useful as the capture antibody in a sandwich ELISA when used in conjunction with the biotinylated Poly5160 antibody (Cat. No. 516003) as the detection antibody and recombinant mouse TNF- α (Cat. No. 575209) as the standard.

Flow Cytometry^{6,11,12}: The fluorochrome-labeled MP6-XT22 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify TNF-a-producing cells within mixed cell populations.

Neutralization^{1,5,10,16,17}: The MP6-XT22 antibody can neutralize the bioactivity of natural or recombinant TNF- α . The LEAF™ purified antibody (Endotoxin < 0.1 EU/ μ g, Azide-Free, 0.2 μ m

filtered) is recommended for neutralization of mouse TNF- α bioactivity *in vivo* and *in vitro* (Cat. No. 506310). For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 506332) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin < 0.01 EU/ μ g).

Additional reported applications (for the relevant formats) include: Western blotting, immunohistochemical staining of paraformaldehyde-fixed, saponin-treated frozen tissue sections⁷⁻⁹ *in vivo* detection⁵, immunofluorescence, and immunocytochemistry.

Note: For testing mouse TNF- α in serum, plasma or supernatant, BioLegend's ELISA Max™ Sets (Cat. No. 430901) are specially developed and recommended.

Application References

(PubMed link indicates BioLegend citation)

1. Abrams J, *et al.* 1992. *Immunol. Rev.* 127:5. (Neut)
2. Abrams J, *et al.* 1995. *Curr. Prot. Immunol.* John Wiley and Sons, New York. Unit 6.20
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4. Sarawar S, *et al.* 1994. *J. Immunol.* 153:1246.
5. Via C, *et al.* 2001. *J. Immunol.* 167:6821. (Neut)
6. Infante-Duarte C, *et al.* 2000 *J. Immunol.* 165:6107. (FC)
7. Jacobs M, *et al.* 2000. *Immunology* 100:494. (IHC)
8. Marinova-Mutachieva L, *et al.* 1997. *Clin. Exp. Immunol.* 107:507. (IHC)
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10. Scanga CA, *et al.* 1999. *Infect. Immun.* 67:4531. (Neut)
11. Akilov OE, *et al.* 2007. *J. Leukoc. Biol.* 2007;10.1189/jlb.0706439. (FC)
12. Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366. (FC)
13. Patole PS, *et al.* 2005. *J. Am. Soc. Nephrol.* 16:3273. [PubMed](#)
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16. Shivakumar P, *et al.* 2017. *JCI Insight.* 2:e88747 1. [PubMed](#)
17. Kearney CJ, *et al.* 2017. *Cell Death Differ.* 10.1038/cdd.2017.94. [PubMed](#)

Product Citations

1. Campbell C *et al.* 2018. *Immunity.* 48(6):1245-1257 . [PubMed](#)
2. Lino AC *et al.* 2018. *Immunity.* 49(1):120-133 . [PubMed](#)
3. Mogueche AO *et al.* 2017. *Cell host & microbe.* 21(6):695-706 . [PubMed](#)
4. O'Boyle C, *et al.* 2020. *Int J Stroke.* 0.746527778. [PubMed](#)
5. Gern BH, *et al.* 2021. *Cell Host Microbe.* 29(4):594-606.e6. [PubMed](#)

RRID

AB_2562918 (BioLegend Cat. No. 506338)

Antigen Details

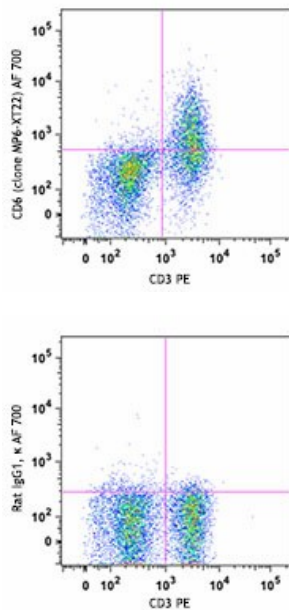
Structure	TNF superfamily; dimer/trimer; 17.5-150 kD (Mammalian)
Bioactivity	Paracrine/endocrine mediator of inflammatory and immune functions; selectively cytotoxic for transformed cells; endothelial cell alterations; chemoattractant
Cell Sources	Activated monocytes, neutrophils, macrophages, T cells, B cells, NK cells, LAK cells
Cell Targets	Monocytes, neutrophils, macrophages, T cells, fibroblasts, endothelial cells, osteoclasts, adipocytes, astroglia, microglia
Receptors	TNFRSF1A (TNF-R1, CD120a, TNFR-p60 Type β , p55); TNFRSF1B (TNF-R2, CD120b, TNFR-p80 Type A, p75)
Cell Type	Tregs
Biology Area	Immunology, Innate Immunity
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press, San Diego.2. Beutler B, <i>et al.</i> 1988. <i>Annu. Rev. Biochem.</i> 57:505.3. Beutler B, <i>et al.</i> 1989. <i>Annu. Rev. Immunol.</i> 7:625.4. Tracey K, <i>et al.</i> 1993. <i>Crit. Care Med.</i> 21:S415.
Regulation	Processed by TACE for secretion; upregulated by interferons, IL-2, GM-CSF, substance P, bradykinin, PAF, immune complexes, and cyclooxygenase; downregulated by IL-6, TGF- β , vitamin D3, prostaglandin E2, and PAF antagonists
Gene ID	21926

Related Protocols

Other Formats

APC anti-mouse TNF- α , FITC anti-mouse TNF- α , PE anti-mouse TNF- α , Purified anti-mouse TNF- α , Biotin anti-mouse TNF- α , Alexa Fluor® 488 anti-mouse TNF- α , Alexa Fluor® 647 anti-mouse TNF- α , Pacific Blue™ anti-mouse TNF- α , PerCP/Cyanine5.5 anti-mouse TNF- α , PE/Cyanine7 anti-mouse TNF- α , Brilliant Violet 421™ anti-mouse TNF- α , Brilliant Violet 605™ anti-mouse TNF- α , Ultra-LEAF™ Purified anti-mouse TNF- α , Brilliant Violet 650™ anti-mouse TNF- α , Alexa Fluor® 700 anti-mouse TNF- α , Purified anti-mouse TNF- α (Maxpar® Ready), Brilliant Violet 510™ anti-mouse TNF- α , Brilliant Violet 785™ anti-mouse TNF- α , APC/Cyanine7 anti-mouse TNF- α , PE/Dazzle™ 594 anti-mouse TNF- α , Brilliant Violet 711™ anti-mouse TNF- α , Brilliant Violet 750™ anti-mouse TNF- α , GolnVivo™ Purified anti-mouse TNF- α

Product Data



PMA + ionomycin-stimulated (6 hours) C57BL/6 mouse splenocytes (in the presence of Brefeldin A) were stained with CD3 PE, fixed, permeabilized and then stained with TNF- α (clone MP6-XT22) Alexa Fluor® 700 (top) or rat IgG1, κ Alexa Fluor® 700 isotype control (bottom).

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