

## Brilliant Violet 650™ anti-mouse TNF-α Antibody

<b>Catalog# / Size</b>	506333 / 50 µg
<b>Clone</b>	MP6-XT22
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Tumor necrosis factor-α, Cachectin, Necrosin, Macrophage cytotoxic factor (MCF), Differentiation inducing factor (DIF), TNFSF-2, TNF-a, TNF-alpha
<b>Isotype</b>	Rat 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 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

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	<i>E. coli</i> -expressed, recombinant mouse TNF-α
<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 Brilliant Violet 650™ under optimal conditions.
<b>Concentration</b>	0.2 mg/ml
<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>
<b>Recommended Usage</b>	<p>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 ≤0.5 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 650™ excites at 405 nm and emits at 645 nm. The bandpass filter 660/20 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. <b>Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.</b> Refer to your instrument manual or manufacturer for support. Brilliant Violet 650™ is a trademark of Sirigen Group Ltd.</p> <p><a href="#">Learn more about Brilliant Violet™.</a></p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</p>
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	<b>ELISA or ELISPOT Detection:</b> 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- $\alpha$  (Cat. No. 575209) as the standard.

**Flow Cytometry**<sup>6,11,12</sup>: The fluorochrome-labeled MP6-XT22 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify TNF- $\alpha$ -producing cells within mixed cell populations.

**Neutralization**<sup>1,5,10,16,17</sup>: The MP6-XT22 antibody can neutralize the bioactivity of natural or recombinant TNF- $\alpha$ . The LEAF™ purified antibody (Endotoxin < 0.1 EU/ $\mu$ g, Azide-Free, 0.2  $\mu$ m filtered) is recommended for neutralization of mouse TNF- $\alpha$  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/ $\mu$ g).

**Additional reported applications (for the relevant formats) include:** Western blotting, immunohistochemical staining of paraformaldehyde-fixed, saponin-treated frozen tissue sections<sup>7-9</sup> *in vivo* detection<sup>5</sup>, immunofluorescence, and immunocytochemistry.

**Note:** For testing mouse TNF- $\alpha$  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
3. Mo X, *et al.* 1995. *J. Virol.* 69:1288.
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)
9. Williams RO, *et al.* 2000. *J. Immunol.* 165:7240. (IHC)
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](#)
14. Wu S, *et al.* 2005. *Neurosci Lett.* 394:158. [PubMed](#)
15. Carlson MJ, *et al.* 2009. *Blood* 113:1365. [PubMed](#)
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. Shakya S, *et al.* 2020. *MethodsX.* 7:101027. [PubMed](#)
2. Marchelletta RR, *et al.* 2021. *J Clin Invest.* 131:. [PubMed](#)
3. Rodriguez-Garcia A, *et al.* 2021. *Nat Commun.* 12:877. [PubMed](#)
4. Sharma NS, *et al.* 2020. *J Clin Invest.* 130:451. [PubMed](#)
5. Hering L, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
6. Palathingal Bava E, *et al.* 2022. *JCI Insight.* 7:. [PubMed](#)
7. Shi L, *et al.* 2016. *Nat Commun.* 7:12335. [PubMed](#)
8. Rosenbaum SR, *et al.* 2020. *Cell Rep.* 30:510. [PubMed](#)
9. Breznik JA, *et al.* 2021. *Immunohorizons.* 5:370. [PubMed](#)
10. Jablonski K, *et al.* 2015. *PLoS One.* 10: 0145342. [PubMed](#)
11. Kung YJ, *et al.* 2022. *J Biomed Sci.* 29:57. [PubMed](#)
12. Hering L, *et al.* 2020. *Front Immunol.* 1.747222222. [PubMed](#)
13. Kumar R, *et al.* 2020. *Cell Reports.* 30(8):2512-2525. [PubMed](#)
14. Fearon AE, *et al.* 2021. *iScience.* 24:103143. [PubMed](#)

## RRID

AB\_2562450 (BioLegend Cat. No. 506333)

## Antigen Details

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<b>Structure</b>	TNF superfamily; dimer/trimer; 17.5-150 kD (Mammalian)
<b>Bioactivity</b>	Paracrine/endocrine mediator of inflammatory and immune functions; selectively cytotoxic for transformed cells; endothelial cell alterations; 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>	Immunology, Innate Immunity
<b>Molecular Family</b>	Cytokines/Chemokines

## Antigen References

1. Fitzgerald K, *et al.* Eds. 2001. The Cytokine FactsBook. Academic Press, San Diego.
2. Beutler B, *et al.* 1988. *Annu. Rev. Biochem.* 57:505.
3. Beutler B, *et al.* 1989. *Annu. Rev. Immunol.* 7:625.
4. Tracey K, *et al.* 1993. *Crit. Care Med.* 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- $\beta$ , vitamin D3, prostaglandin E2, and PAF antagonists

## Gene ID

[21926](#)

## Related Protocols

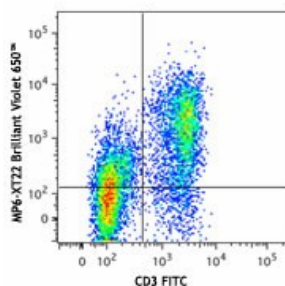
[Surface and Intracellular Cytokine Staining for Flow Cytometry - Video](#)

[Intracellular Flow Cytometry Staining Protocol](#)

## Other Formats

APC anti-mouse TNF- $\alpha$ , FITC anti-mouse TNF- $\alpha$ , PE anti-mouse TNF- $\alpha$ , Purified anti-mouse TNF- $\alpha$ , Biotin anti-mouse TNF- $\alpha$ , Alexa Fluor<sup>®</sup> 488 anti-mouse TNF- $\alpha$ , Alexa Fluor<sup>®</sup> 647 anti-mouse TNF- $\alpha$ , Pacific Blue<sup>™</sup> anti-mouse TNF- $\alpha$ , PerCP/Cyanine5.5 anti-mouse TNF- $\alpha$ , PE/Cyanine7 anti-mouse TNF- $\alpha$ , Brilliant Violet 421<sup>™</sup> anti-mouse TNF- $\alpha$ , Brilliant Violet 605<sup>™</sup> anti-mouse TNF- $\alpha$ , Ultra-LEAF<sup>™</sup> Purified anti-mouse TNF- $\alpha$ , Brilliant Violet 650<sup>™</sup> anti-mouse TNF- $\alpha$ , Alexa Fluor<sup>®</sup> 700 anti-mouse TNF- $\alpha$ , Purified anti-mouse TNF- $\alpha$  (Maxpar<sup>®</sup> Ready), Brilliant Violet 510<sup>™</sup> anti-mouse TNF- $\alpha$ , Brilliant Violet 785<sup>™</sup> anti-mouse TNF- $\alpha$ , APC/Cyanine7 anti-mouse TNF- $\alpha$ , PE/Dazzle<sup>™</sup> 594 anti-mouse TNF- $\alpha$ , Brilliant Violet 711<sup>™</sup> anti-mouse TNF- $\alpha$ , Brilliant Violet 750<sup>™</sup> anti-mouse TNF- $\alpha$ , GolnVivo<sup>™</sup> Purified anti-mouse TNF- $\alpha$ , Spark NIR<sup>™</sup> 685 anti-mouse TNF- $\alpha$

## Product Data



PMA+ Ionomycin-stimulated (6 hours) C57BL/6 mouse splenocytes (in the presence of monensin) were surface stained with CD3 FITC and then intracellularly stained with TNF- $\alpha$  (clone MP6-XT22) Brilliant Violet 650<sup>™</sup>.

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