Brilliant Violet 785™ anti-mouse TNF-α Antibody

Catalog# / Size	506341 / 50 µg
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 *in vitro*, hemorrhagic necrosis of tumors *in vivo*, increased fibroblast proliferation, and enhanced chemotaxis and phagocytosis in neutrophils.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	*E. coli*-expressed, recombinant mouse TNF-α
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 785™ under optimal conditions.
Concentration	0.2 mg/ml
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 ≤0.125 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application. Brilliant Violet 785™ excites at 405 nm and emits at 785 nm. The bandpass filter 780/60 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. **Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.** Refer to your instrument manual or manufacturer for support. Brilliant Violet 785™ is a trademark of Sirigen Group Ltd. Learn more about Brilliant Violet™. 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.
Excitation Laser	Violet Laser (405 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/µg, Azide-Free, 0.2 µm 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/µg).
Additional reported applications (for the relevant formats) include: Western blotting, immunohistochemical staining of paraformaldehyde-fixed, saponin-treated frozen tissue sections[7-9] *in vivo* detection[5], 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
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. Toomer G, *et al.* 2022. Viruses. 14:. PubMed
2. Tang-Huau TL, *et al.* 2021. Viruses. 13: . PubMed

RRID

AB_2565951 (BioLegend Cat. No. 506341)

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	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-β, vitamin D3, prostaglandin E2, and PAF antagonists
Gene ID	21926

Related Protocols

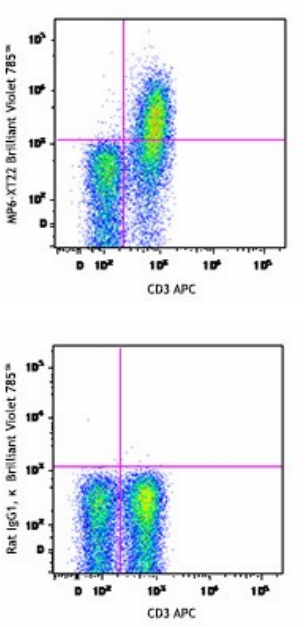
Surface and Intracellular Cytokine Staining for Flow Cytometry - Video

Intracellular Flow Cytometry Staining Protocol

Other Formats

APC anti-mouse TNF-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, GoInVivo™ Purified anti-mouse TNF-α, Spark NIR™ 685 anti-mouse TNF-α

Product Data



PMA + Ionomycin-stimulated C57BL/6 mouse splenocytes (six-hour in the presence of monensin) were stained with CD3 APC, fixed, permeabilized and then stained with TNF-α (clone MP6-XT22) Brilliant Violet 785™ (top) or rat IgG1, κ Brilliant Violet 785™ isotype control (bottom).

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