

## Brilliant Violet 510™ anti-mouse IFN-γ Antibody

<b>Catalog# / Size</b>	505841 / 125 µL 505842 / 50 µg
<b>Clone</b>	XMG1.2
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Interferon-γ, Immune interferon, Type II interferon, T cell interferon, Macrophage-activating factor (MAF)
<b>Isotype</b>	Rat IgG1, κ
<b>Description</b>	IFN-γ is a potent multifunctional cytokine which is secreted primarily by activated NK cells and T cells. Originally characterized based on anti-viral activities, IFN-γ also exerts anti-proliferative, immunoregulatory, and proinflammatory activities. IFN-γ can upregulate MHC class I and II antigen expression by antigen-presenting cells.

### 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 IFN-γ
<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 510™ under optimal conditions.
<b>Concentration</b>	µg size: 0.2 mg/mL µL size: lot-specific (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, 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 in µL size, the suggested use of this reagent is 5 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. For flow cytometric staining in µg size, 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 510™ excites at 405 nm and emits at 510 nm. The bandpass filter 510/50 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 510™ 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<sup>1-4,11,14</sup> or ELISPOT<sup>5</sup> Detection:</b> The biotinylated XMG1.2 antibody is useful as a detection antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with purified R4-6A2

antibody (Cat. No. 505702/505706) as the capture antibody and recombinant mouse IFN- $\gamma$  (Cat. No. 575309) as the standard.

**ELISA or ELISPOT Capture:** The purified XMGI.2 antibody is useful as a capture antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with biotinylated R4-6A2 antibody (Cat. No. 505704) as the detection antibody and recombinant mouse IFN- $\gamma$  (Cat. No. 575309) as the standard. The LEAF™ purified antibody is suggested for ELISPOT capture (Cat. No. 505812).

**Flow Cytometry**<sup>7,8,12,13,16</sup>: The fluorochrome-labeled XMGI.2 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify IFN- $\gamma$ -producing cells within mixed cell populations.

**Neutralization**<sup>1-3,9,10</sup>: The XMGI.2 antibody can neutralize the bioactivity of natural or recombinant IFN- $\gamma$ . The LEAF™ purified antibody (Endotoxin <0.1 EU/ $\mu$ g, Azide-Free, 0.2  $\mu$ m filtered) is recommended for neutralization of mouse IFN- $\gamma$  bioactivity *in vivo* and *in vitro* (Cat. No. 505812). For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 505834) 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 frozen tissue sections<sup>6,22,23</sup>, and immunocytochemistry.

**Note:** For testing mouse IFN- $\gamma$  in serum, plasma or supernatant, BioLegend's ELISA Max™ Sets (Cat. No. 430801 to 430806) are specially developed and recommended.

## Application References

(PubMed link indicates BioLegend citation)

1. Abrams J, *et al.* 1992. *Immunol. Rev.* 127:5. (ELISA, Neut)
2. Sander B, *et al.* 1993. *J. Immunol. Meth.* 166:201. (ELISA, Neut)
3. Abrams J, *et al.* 1995. *Curr. Prot. Immunol.* John Wiley and Sons, New York. Unit 6.20. (ELISA, Neut)
4. Yang X, *et al.* 1993. *J. Immunoassay* 14:129. (ELISA)
5. Klinman D, *et al.* 1994. *Curr. Prot. Immunol.* John Wiley and Sons, New York. Unit 6.19. (ELISPOT)
6. Sander B, *et al.* 1991. *Immunol. Rev.* 119:65. (IHC)
7. Ferrick D, *et al.* 1995. *Nature* 373:255. (FC)
8. Ko SY, *et al.* 2005. *J. Immunol.* 175:3309. (FC) [PubMed](#)
9. Peterson KE, *et al.* 2000. *J. Virol.* 74:5363. (Neut)
10. DeKrey GK, *et al.* 1998. *Infect. Immun.* 66:827. (Neut)
11. Dzhagalov I, *et al.* 2007. *J. Immunol.* 178:2113. (ELISA)
12. Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366. (FC)
13. Lee JW, *et al.* 2006. *Nature Immunol.* 8:181. (FC) [PubMed](#)
14. Xu G, *et al.* 2007. *J. Immunol.* 179:5358. (ELISA) [PubMed](#)
15. Montfort M, *et al.* 2004. *J. Immunol.* 173:4084. [PubMed](#)
16. Haring JS, *et al.* 2008. *J. Immunol.* 180:2855. (FC) [PubMed](#)
17. Jordan JM, *et al.* 2008. *Infect Immun.* 76:3717. [PubMed](#)
18. Tonkin DR, *et al.* 2008. *J. Immunol.* 181:4516. [PubMed](#)
19. Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) [PubMed](#)
20. Cui Y, *et al.* 2009. *Invest. Ophth. Vis. Sci.* 50:5811. (FC) [PubMed](#)
21. Mykkanen OT, *et al.* 2014. *PLoS One.* 9:114790. [PubMed](#)
22. Yokogawa M, *et al.* 2013. *Mol. Carcinog.* 52:760. (IHC)
23. Mottram PL, *et al.* 1998. *J Immunol.* 161:602. (IHC)

## Product Citations

1. Hayatsu N *et al.* 2017. *Immunity.* 47(2):268-283. [PubMed](#)
2. Rivadeneira DB, *et al.* 2020. *Immunity.* 51(3):548-560. [PubMed](#)
3. Chung L *et al.* 2018. *Cell host & microbe.* 23(2):203-214. [PubMed](#)
4. Watson MJ, *et al.* 2021. *Nature.* 591:645. [PubMed](#)

## RRID

AB\_2562187 (BioLegend Cat. No. 505841)  
AB\_2734494 (BioLegend Cat. No. 505842)

## Antigen Details

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<b>Structure</b>	Cytokine; dimer; 40-80 kD (Mammalian)
<b>Bioactivity</b>	Antiviral/antiparasitic activities; inhibits proliferation; enhances MHC class I and II expression on APCs
<b>Cell Sources</b>	CD8 <sup>+</sup> and CD4 <sup>+</sup> T cells, NK cells
<b>Cell Targets</b>	T cells, B cells, macrophages, NK cells, endothelial cells, fibroblasts
<b>Receptors</b>	IFN- $\gamma$ R $\alpha$ (CDw119) dimerized with IFN- $\gamma$ R $\beta$ (AF-1)
<b>Cell Type</b>	Tregs
<b>Biology Area</b>	Cell Biology, Immunology, Neuroinflammation, Neuroscience
<b>Molecular Family</b>	Cytokines/Chemokines
<b>Antigen References</b>	1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press, San Diego. 2. De Maeyer E, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:321.

- Farrar M, *et al.* 1993. *Annu. Rev. Immunol.* 11:571.
- Gray P, *et al.* 1987. *Lymphokines* 13:151.

**Regulation** Upregulated by IL-2, FGF-basic, EGF; downregulated by 1- $\alpha$ -25-Dihydroxy vitamin D3, dexamethasone

**Gene ID** [15978](#)

## Related Protocols

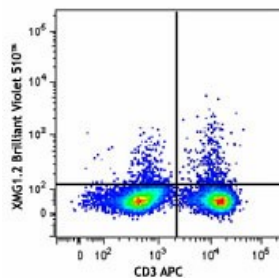
[Surface and Intracellular Cytokine Staining for Flow Cytometry - Video](#)

[Intracellular Flow Cytometry Staining Protocol](#)

## Other Formats

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

## Product Data



PMA+ionomycin-stimulated C57BL/6 mouse splenocytes (6 hours, in the presence of monensin) were surface stained with CD3 APC and then intracellularly stained with IFN- $\gamma$  (clone XMG1.2) Brilliant Violet 510™.

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