

Alexa Fluor® 647 anti-mouse IFN-γ Antibody

Catalog# / Size	505816 / 25 µg 505814 / 100 µg
Clone	XMG1.2
Regulatory Status	RUO
Other Names	Interferon-γ, Immune interferon, Type II interferon, T cell interferon, Macrophage-activating factor (MAF)
Isotype	Rat IgG1, κ
Description	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

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	<i>E. coli</i> -expressed, recombinant mouse IFN-γ
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® 647 under optimal conditions.
Concentration	0.5 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 ≤ 0.25 µg per 10 ⁶ cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.

* Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm.

Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.

[View full statement regarding label licenses](#)

Excitation Laser Red Laser (633 nm)

Application Notes

ELISA^{1-4,11,14} or ELISPOT⁵ Detection: 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-γ (Cat. No. 575309) as the standard.

ELISA or ELISPOT Capture: The purified XMG1.2 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-γ (Cat. No. 575309) as the standard. The LEAF™ purified antibody is suggested for ELISPOT capture (Cat. No. 505812).

Flow Cytometry^{7,8,12,13,16}: The fluorochrome-labeled XMG1.2 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify IFN-γ-producing cells within mixed cell populations.

Neutralization^{1-3,9,10}: The XMG1.2 antibody can neutralize the bioactivity of natural or recombinant IFN-γ. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for neutralization of mouse IFN-γ 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/μg).

Additional reported applications (for the relevant formats) include: Western blotting, immunohistochemical staining of frozen tissue sections^{6,22,23}, and immunocytochemistry.

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

Application References

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. Lee J, *et al.* 2007. *Nat Immunol.* 8:181. [PubMed](#)
2. El-Zaatari M, *et al.* 2014. *J Immunol.* 193:807. [PubMed](#)
3. Chang Y, *et al.* 2015. *JPEN J Parenter Enteral Nutr.* [PubMed](#)
4. Vijay R, *et al.* 2015. *J Exp Med.* 212: 1851 - 1868. [PubMed](#)
5. Kobia FM, *et al.* 2020. *PLoS Biol.* 18:e3000850. [PubMed](#)
6. Meng KP, *et al.* 2020. *J Exp Med.* 217:00:00. [PubMed](#)
7. Tang B, *et al.* 2020. *Clin Cancer Res.* 26:2216. [PubMed](#)
8. Vaena S, *et al.* 2021. *Cell Reports.* 35(5):109076. [PubMed](#)
9. Chatterjee S *et al.* 2017. *Cell metabolism.* 27(1):85-100. [PubMed](#)
10. Kelsey E Sivick *et al.* 2018. *Cell reports.* 25(11):3074-3085. [PubMed](#)
11. Liu C *et al.* 2019. *Immunity.* 51(2):381-397. [PubMed](#)
12. Salazar V, *et al.* 2019. *Cell Rep.* 26:1585. [PubMed](#)
13. Suhail A, *et al.* 2019. *Cell Rep.* 29:3522. [PubMed](#)
14. Chakraborty P, *et al.* 2020. *Cell Reports.* 28(7):1879-1893.e7.. [PubMed](#)
15. Montfort M, *et al.* 2004. *J Immunol.* 173:4084. [PubMed](#)

RRID

AB_493315 (BioLegend Cat. No. 505816)
AB_493314 (BioLegend Cat. No. 505814)

Antigen Details

Structure	Cytokine; dimer; 40-80 kD (Mammalian)
Bioactivity	Antiviral/antiparasitic activities; inhibits proliferation; enhances MHC class I and II expression on APCs
Cell Sources	CD8 ⁺ and CD4 ⁺ T cells, NK cells
Cell Targets	T cells, B cells, macrophages, NK cells, endothelial cells, fibroblasts
Receptors	IFN-γRα (CDw119) dimerized with IFN-γRβ (AF-1)
Cell Type	Tregs
Biology Area	Cell Biology, Immunology, Neuroinflammation, Neuroscience
Molecular Family	Cytokines/Chemokines
Antigen References	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. 3. Farrar M, <i>et al.</i> 1993. <i>Annu. Rev. Immunol.</i> 11:571.

4. Gray P, *et al.* 1987. *Lymphokines* 13:151.

Regulation

Upregulated by IL-2, FGF-basic, EGF; downregulated by 1- α -25-Dihydroxy vitamin D3, dexamethasone

Gene ID

[15978](#)

Related Protocols

[Intracellular Cytokine Staining Protocol - Video](#)

[Intracellular Flow Cytometry Staining Protocol](#)

Other Formats

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

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587