Brilliant Violet 650™ anti-mouse IFN-γ Antibody

Catalog# / Size	505831 / 125 µL 505832 / 50 µg
Clone	XMG1.2
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

Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	*E. coli*-expressed, recombinant mouse IFN-γ
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 650™ under optimal conditions.
Concentration	µg size: 0.2 µg/ml µl size: Lot-specific (please contact technical support for concentration and total µg amount, or use our Lookup tool if you have a lot number.)
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 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 ≤0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application. 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. **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 650™ 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[1-4,11,14] or ELISPOT[5] 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

(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)

Product Citations

1. Montfort M, et al. 2004. J Immunol. 173:4084. PubMed
2. Lee J, et al. 2007. Nat Immunol. 8:181. PubMed
3. Cabrera-Perez C, et al. 2015. J Immunol . 194:1609-20. PubMed
4. Cabrera-Perez J, et al. 2016. J Immunol. 197: 1692 - 1698. PubMed
5. Willingham SB, et al. 2018. Cancer Immunol Res. 6:1136. PubMed
6. Sendler M, et al. 2020. Gastroenterology. 158:253. PubMed

RRID

AB_11142685 (BioLegend Cat. No. 505831)
AB_2734492 (BioLegend Cat. No. 505832)

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, et al. Eds. 2001. The Cytokine FactsBook. Academic Press, San Diego.
2. De Maeyer E, et al. 1992. Curr. Opin. Immunol. 4:321.
3. Farrar M, et al. 1993. Annu. Rev. Immunol. 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

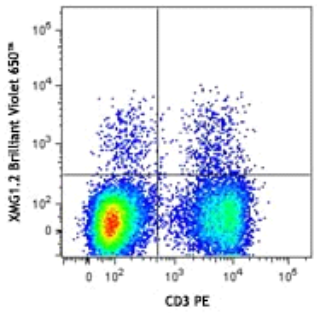
Intracellular Cytokine Staining Protocol - Video

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, 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, GoInVivo™ Purified anti-mouse IFN-γ, APC/Fire™ 750 anti-mouse IFN-γ

Product Data



PMA + Ionomycin-stimulated (6 hours) C57BL/6 mouse splenocytes (in the presence of monensin) were stained with CD3 PE, fixed, permeabilized, and then stained with IFN-γ (clone XMG1.2) Brilliant Violet 650™.

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