

## Brilliant Violet 570™ anti-human IFN-γ Antibody

<b>Catalog# / Size</b>	502533 / 25 tests 502534 / 100 tests
<b>Clone</b>	4S.B3
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Interferon-γ, Immune interferon, Type II interferon, T cell interferon, Macrophage-activating factor (MAF), IFN-g, IFN-gamma
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	Interferon-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>	Human
<b>Reported Reactivity</b>	Chimpanzee, Baboon, Cynomolgus, Rhesus
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Partially purified, native human 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 570™ under optimal conditions.
<b>Concentration</b>	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, 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.</p> <p>Brilliant Violet 570™ excites at 405 nm and emits at 570 nm. The bandpass filter 585/42 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 570™ 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<sup>5</sup>:</b> The biotinylated 4S.B3 antibody is useful as a detection antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with purified NIB42 antibody (Cat. No. 502402/502404) or purified MD-1 antibody (Cat. No. 507502/507513) as the capture

antibody.

**Flow Cytometry**<sup>3,4,6-8</sup>: The fluorochrome-labeled 4S.B3 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify IFN- $\gamma$ -producing cells within mixed cell populations.

**Additional reported applications (for the relevant formats) include:** neutralization<sup>1,2</sup>, Western blotting, immunohistochemical staining of paraformaldehyde-fixed, saponin-treated tissue sections, and immunocytochemistry. The 4S.B3 antibody can neutralize the bioactivity of natural or recombinant IFN- $\gamma$ .

**Note:** For testing human IFN- $\gamma$  in serum or plasma, BioLegend's ELISA Max™ Sets (Cat. No. 430101 to 430106) are specially developed and recommended.

## Application References

(PubMed link indicates BioLegend citation)

1. Meager A, *et al.* 1984. *J. Interferon Res.* 4:619. (Neut)
2. Meager A, 1987. *Lymphokines and Interferons: A Practical Approach.* IRL Press Ltd, Oxford, p. 105. (Neut)
3. Sester M, *et al.* 2002. *J. Virol.* 76:3748. (ICFC)
4. Infante-Duarte C, *et al.* 2000. *J. Immunol.* 165:6107. (ICFC)
5. Goodier M, *et al.* 2000. *J. Immunol.* 165:139. (ELISA)
6. Chen H, *et al.* 2005. *J. Immunol.* 175:591. (ICFC)
7. Smeltz RB, 2007. *J. Immunol.* 178:4786. (ICFC)
8. Iwamoto S, *et al.* 2007. *J. Immunol.* 179:1449. (ICFC) [PubMed](#)
9. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (ICFC)

## Product Citations

1. Marquardt N, *et al.* 2015. *J Immunol.* 195: 3262 - 3272. [PubMed](#)
2. Jung IY, *et al.* 2022. *Sci Transl Med.* 14:eabn7336. [PubMed](#)
3. Tebas P, *et al.* 2021. *J Clin Invest.* 131: [PubMed](#)
4. Marquardt N, *et al.* 2019. *Nat Commun.* 10:3841. [PubMed](#)
5. Blom K, *et al.* 2016. *J Immunol.* 197: 2762 - 2771. [PubMed](#)
6. Day C, *et al.* 2017. *J Immunol.* 10.4049/jimmunol.1700558. [PubMed](#)
7. Cheng J, *et al.* 2022. *iScience.* 25:103588. [PubMed](#)
8. Marquardt N, *et al.* 2015. *J Immunol.* 194:2467. [PubMed](#)

## RRID

AB\_10900803 (BioLegend Cat. No. 502533)  
AB\_2563880 (BioLegend Cat. No. 502534)

## Antigen Details

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<b>Structure</b>	Cytokine; dimer; 20-25 kD (Mammalian)
<b>Bioactivity</b>	Antiviral/antiparasitic activities; inhibits proliferation; enhances MHC class I and II expression on APC
<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>	<ol style="list-style-type: none"><li>1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press, San Diego.</li><li>2. De Maeyer E, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:321.</li><li>3. Farrar M, <i>et al.</i> 1993. <i>Annu. Rev. Immunol.</i> 11:571.</li><li>4. Gray P, <i>et al.</i> 1987. <i>Lymphokines</i> 13:151.</li></ol>
<b>Regulation</b>	Upregulated by IL-2, FGF-basic, EGF; downregulated by vitamin D3 or DMN; labile at pH2
<b>Gene ID</b>	<a href="#">3458</a>

## Related Protocols

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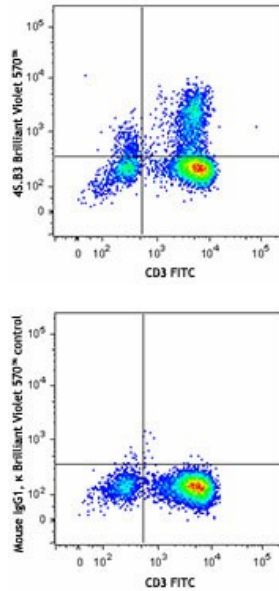
[Surface and Intracellular Cytokine Staining for Flow Cytometry - Video](#)

[Intracellular Flow Cytometry Staining Protocol](#)

## Other Formats

PE anti-human IFN- $\gamma$ , APC anti-human IFN- $\gamma$ , FITC anti-human IFN- $\gamma$ , Biotin anti-human IFN- $\gamma$ , Purified anti-human IFN- $\gamma$ , Alexa Fluor® 488 anti-human IFN- $\gamma$ , Alexa Fluor® 647 anti-human IFN- $\gamma$ , Alexa Fluor® 700 anti-human IFN- $\gamma$ , Pacific Blue™ anti-human IFN- $\gamma$ , PerCP/Cyanine5.5 anti-human IFN- $\gamma$ , APC/Cyanine7 anti-human IFN- $\gamma$ , PE/Cyanine7 anti-human IFN- $\gamma$ , Brilliant Violet 421™ anti-human IFN- $\gamma$ , Brilliant Violet 570™ anti-human IFN- $\gamma$ , Brilliant Violet 605™ anti-human IFN- $\gamma$ , Brilliant Violet 650™ anti-human IFN- $\gamma$ , Brilliant Violet 711™ anti-human IFN- $\gamma$ , Brilliant Violet 785™ anti-human IFN- $\gamma$ , Brilliant Violet 510™ anti-human IFN- $\gamma$ , PE/Dazzle™ 594 anti-human IFN- $\gamma$ , APC/Fire™ 750 anti-human IFN- $\gamma$ , PerCP anti-human IFN- $\gamma$ , Brilliant Violet 750™ anti-human IFN- $\gamma$ , KIRAVIA Blue 520™ anti-human IFN- $\gamma$  Antibody, Spark NIR™ 685 anti-human IFN- $\gamma$  Antibody

## Product Data



PMA/ionomycin-stimulated (6 hours) human peripheral blood lymphocytes were surface stained with CD3 FITC, and then intracellularly stained with IFN- $\gamma$  (clone 4S.B3) Brilliant Violet 570™ (top) or mouse IgG1,  $\kappa$  Brilliant Violet 570™ isotype control (bottom).

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