# PerCP/Cyanine5.5 anti-mouse IL-4 Antibody

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| **Catalog# / Size** | 504123 / 25 µg<br>504124 / 100 µg |
| **Clone** | 11B11 |
| **Regulatory Status** | RUO |
| **Other Names** | Interleukin-4, Ia inducing factor (IaIF), B cell stimulating factor-1 (BSF-1), Hodgkin's cell growth factor (HCGF), Mast cell growth factor-2 (MCGF-2), Macrophage fusion factor (MFF), T cell growth factor-2 (TCGF-2) |
| **Isotype** | Rat IgG1, κ |
| **Description** | IL-4 is a pleiotropic cytokine produced by activated T cells, mast cells, and basophils. IL-4 is a potent lymphoid cell growth factor which stimulates the growth and activation of certain B cells and T cells. IL-4 is important for regulation of T helper subset development. |

## Product Details

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| **Verified Reactivity** | Mouse |
| **Antibody Type** | Monoclonal |
| **Host Species** | Rat |
| **Immunogen** | Partially purified native mouse IL-4 |
| **Formulation** | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide. |
| **Preparation** | The antibody was purified by affinity chromatography and conjugated with PerCP/Cyanine5.5 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 =0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.<br><br>* PerCP/Cyanine5.5 has a maximum absorption of 482 nm and a maximum emission of 690 nm. |
| **Application Notes** | **ELISA[1,2,10,13] or ELISPOT[5] Capture:** The purified 11B11 antibody is useful as the capture antibody in a sandwich ELISA or ELISPOT assay, when used in conjunction with the biotinylated BVD6-24G2 antibody (Cat. No. 504202) as the detecting antibody and recombinant mouse IL-4 (Cat. No. 575609) as the standard. The LEAF™ purified antibody is suggested for ELISPOT capture.<br>**Neutralization[1-2,9,12]:** The 11B11 antibody can neutralize the bioactivity of natural or recombinant IL-4. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for neutralization of mouse IL-4 bioactivity *in vivo* and *in vitro* (Cat. No. 504108).<br>**Additional reported applications (for the relevant formats) include:** immunoprecipitation[16], immunohistochemical staining of formalin-fixed paraffin-embedded tissue sections[8] and paraformaldehyde-fixed, saponin-treated frozen tissue sections[6,7], and immunocytochemistry[4].<br>**Note:** For testing mouse IL-4 in serum, plasma or supernatant, BioLegend's ELISA Max™ Sets (Cat. No. 431101 to 431106) are specially developed and recommended. |
| **Additional Product Notes** | BioLegend is in the process of converting the name PerCP/Cy5.5 to PerCP/Cyanine5.5. The dye molecule remains the same, so you should expect the same quality and performance from our PerCP/Cyanine5.5 products. Contact Technical Service if you have any questions. |
| **Application References** | 1. Shirai A, *et al.* 1994. *Cytokine* 6:329. (ELISA, Neut) |

**(PubMed link indicates BioLegend citation)**


2. Abrams J. 1995. *Curr. Prot. Immunol.* John Wiley and Sons New York. Unit 6.20. (ELISA, Neut)
3. Assenmacher M, *et al.* 1994. *Eur. J. Immunol.* 24:1097.
4. Openshaw P, *et al.* 1995. *J. Exp. Med.* 182:1357. (ICC)
5. Klinman D, *et al.* 1994. *Curr. Prot. Immunol.* John Wiley and Sons New York. Unit 6.19. (ELISA Capture)
6. Litton M, *et al.* 1994. *J. Immunol. Methods* 175:47. (IHC)
7. Andersson U, *et al.* 1999. *Detection and quantification of gene expression.* New York:Springer-Verlag. (IHC)
8. Fan WY, *et al.* 2001. *Exp. Biol. Med.* 226:1045. (IHC)
9. Hara M, *et al.* 2001. *J. Immunol.* 166:3789. (Neut)
10. Dzhagalov I, *et al.* 2007. *J. Immunol.* 178:2113. (ELISA)
11. Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366.
12. Wang W, *et al.* 2007. *J. Immunol.* 178:4885. (Neut)
13. Xu G, *et al.* 2007. *J. Immunol.* 179:5358. (ELISA) PubMed
14. Ohnmacht C, *et al.* 2008. *Blood* 113:2816. PubMed
15. Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) PubMed
16. Zavorotinskaya T, *et al.* 2003. *Mol. Ther.* 7:155. (IP)


**Product Citations**


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2. Zhao Y, *et al.* 2015. PLoS One. 10: 0134797. PubMed
3. Cai W, *et al.* 2020. J Immunol Res. 2019:2835256. PubMed
4. Nakatsuji T, *et al.* 2021. Nat Med. 27:700. PubMed
5. Grigoryan L, *et al.* 2022. NPJ Vaccines. 7:55. PubMed
6. Zeng Q, *et al.* 2022. Front Immunol. 13:740805. PubMed
7. Faust HJ, *et al.* 2020. J Clin Invest. 130:5493. PubMed
8. Nakornpakdee Y, *et al.* 2018. Asian Pac J Allergy Immunol. 36:265. PubMed
9. Takahashi T, *et al.* 2017. J Exp Med. 10.1084/jem.20160247. PubMed
10. Tzeng TT, *et al.* 2022. NPJ Vaccines. 7:60. PubMed
11. Steinmann S, *et al.* 2020. Sci Rep. 1.160416667. PubMed


**RRID**

AB_2561564 (BioLegend Cat. No. 504123)
AB_2561565 (BioLegend Cat. No. 504124)

## Antigen Details

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| **Structure** | Cytokine; 15-19 kD (Mammalian) |
| **Bioactivity** | Differentiation of naïve $CD4^+$ T cells to the $T_H2$ type, proliferation/differentiation of activated B cells, expression of class II MHC antigens, and of low affinity IgE receptors in resting B cells |
| **Cell Sources** | Mast cells, T cells, bone marrow stromal cells |
| **Cell Targets** | B cells, T cells, monocytes, endothelial cells, fibroblasts |
| **Receptors** | Heterodimer IL-4Rα (CD124); γ-subunit (CD132) in common with IL-2R, IL-7R, IL-13R, IL-15R |
| **Cell Type** | Tregs |
| **Biology Area** | Immunology |
| **Molecular Family** | Cytokines/Chemokines |
| **Antigen References** | 1. Fitzgerald K, *et al.* Eds. 2001. The Cytokine FactsBook. Academic Press San Diego.<br>2. Boulay J, *et al.* 1992. *Curr. Opin. Immunol.* 4:294.<br>3. Dullens H, *et al.* 1991. *In vivo* 5:567.<br>4. Paul W. 1991. *Blood* 77:1859. |
| **Regulation** | Upregulated by IL-2, platelet activating factor; downregulated by TGF-β |
| **Gene ID** | 16189 |

## Related Protocols

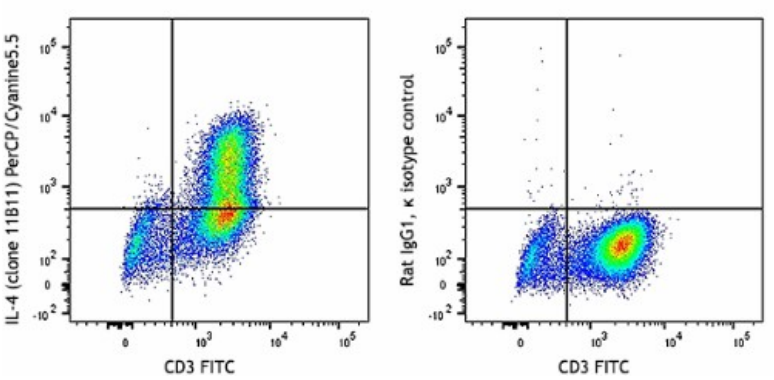
Surface and Intracellular Cytokine Staining for Flow Cytometry - Video

Intracellular Flow Cytometry Staining Protocol

## Other Formats

APC anti-mouse IL-4, PE anti-mouse IL-4, Purified anti-mouse IL-4, Alexa Fluor® 488 anti-mouse IL-4, Alexa Fluor® 647 anti-mouse IL-4, PE/Cyanine7 anti-mouse IL-4, Brilliant Violet 421™ anti-mouse IL-4, Ultra-LEAF™ Purified anti-mouse IL-4, PerCP/Cyanine5.5 anti-mouse IL-4, Brilliant Violet 605™ anti-mouse IL-4, Purified anti-mouse IL-4 (Maxpar® Ready), PE/Dazzle™ 594 anti-mouse IL-4, Brilliant Violet 711™ anti-mouse IL-4, APC/Fire™ 750 anti-mouse IL-4

## Product Data




Th2-polarized cells from C57BL/6 mouse T cells were stimulated with PMA, ionomycin fro 6 hours (in presence of monensin). The cells were then stained with CD3 FITC and subsequently fixed, permeabilized, and intracellularly stained with IL-4 (clone 11B11) PerCP/Cyanine5.5 (left) or Rat IgG1, ? PerCP/Cyanine5.5 isotype control (right).



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