

## APC anti-mouse IL-4 Antibody

|                          |   |
|--------------------------|---|
| <b>Catalog# / Size</b>   | 504105 / 25 µg<br>504106 / 100 µg   |
| <b>Clone</b>             | 11B11   |
| <b>Regulatory Status</b> | RUO   |
| <b>Other Names</b>       | 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)   |
| <b>Isotype</b>           | Rat IgG1, κ   |
| <b>Description</b>       | 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

|                               |  |
|-------------------------------|--|
| <b>Verified Reactivity</b>    | Mouse  |
| <b>Antibody Type</b>          | Monoclonal   |
| <b>Host Species</b>           | Rat  |
| <b>Immunogen</b>              | Partially purified native mouse IL-4   |
| <b>Formulation</b>            | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.  |
| <b>Preparation</b>            | The antibody was purified by affinity chromatography, and conjugated with APC under optimal conditions.  |
| <b>Concentration</b>          | 0.2 mg/ml  |
| <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>      | 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 ≤1.0 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.  |
| <b>Excitation Laser</b>       | Red Laser (633 nm)   |
| <b>Application Notes</b>      | <b>ELISA<sup>1,2,10,13</sup> or ELISPOT<sup>5</sup> Capture:</b> 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><b>Neutralization<sup>1-2,9,12</sup>:</b> 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 <i>in vivo</i> and <i>in vitro</i> (Cat. No. 504108).<br><b>Additional reported applications (for the relevant formats) include:</b> immunoprecipitation <sup>16</sup> , immunohistochemical staining of formalin-fixed paraffin-embedded tissue sections <sup>8</sup> and paraformaldehyde-fixed, saponin-treated frozen tissue sections <sup>6,7</sup> , and immunocytochemistry <sup>4</sup> .<br><b>Note:</b> 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. |

### Application References

(PubMed link indicates BioLegend citation)

1. Shirai A, *et al.* 1994. *Cytokine* 6:329. (ELISA, Neut)
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)
- Litton M, *et al.* 1994. *J. Immunol. Methods* 175:47. (IHC)
  - Andersson U, *et al.* 1999. *Detection and quantification of gene expression*. New York:Springer-Verlag. (IHC)
  - Fan WY, *et al.* 2001. *Exp. Biol. Med.* 226:1045. (IHC)
  - Hara M, *et al.* 2001. *J. Immunol.* 166:3789. (Neut)
  - Dzhagalov I, *et al.* 2007. *J. Immunol.* 178:2113. (ELISA)
  - Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366.
  - Wang W, *et al.* 2007. *J. Immunol.* 178:4885. (Neut)
  - Xu G, *et al.* 2007. *J. Immunol.* 179:5358. (ELISA) [PubMed](#)
  - Ohnmacht C, *et al.* 2008. *Blood* 113:2816. [PubMed](#)
  - Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) [PubMed](#)
  - Zavorotinskaya T, *et al.* 2003. *Mol. Ther.* 7:155. (IP)

## Product Citations

- Bing Wu *et al.* 2018. *Immunity*. 49(5):886-898 . [PubMed](#)
- Ren W, *et al.* 2018. *Mucosal Immunol.* 12:531. [PubMed](#)
- Timilshina M, *et al.* 2020. *Cell Reports*. 27(10):2948-2961.e7.. [PubMed](#)
- Kim CJ, *et al.* 2018. *Immunity*. 49:1034. [PubMed](#)
- Jing Y, *et al.* 2020. *Sci Adv.* 6:eaax9455. [PubMed](#)
- Wen J, *et al.* 2020. *Cell Rep.* 31:107566. [PubMed](#)
- Elong Ngonu A, *et al.* 2020. *Cell Reports*. 1.330555556. [PubMed](#)
- Hegde S, *et al.* 2020. *Cancer Cell*. 37(3):289-307. [PubMed](#)
- Jin R, *et al.* 2008. *J Immunol.* 180:2256. [PubMed](#)
- Fukuishi N, *et al.* 2014. *J Immunol.* 193:1886. [PubMed](#)
- Xu Y, *et al.* 2016. *Nat Commun.* 7:12073. [PubMed](#)
- Li X, *et al.* 2016. *MBio.* 7: 02232-15. [PubMed](#)
- Mansouri S, *et al.* 2020. *Mucosal Immunol.* 0.954861111. [PubMed](#)
- Zhang H, *et al.* 2021. *Cell Reports*. 35(6):109096. [PubMed](#)

## RRID

AB\_315319 (BioLegend Cat. No. 504105)  
 AB\_315320 (BioLegend Cat. No. 504106)

## Antigen Details

---

|                           |  |
|---------------------------|--|
| <b>Structure</b>          | Cytokine; 15-19 kD (Mammalian)   |
| <b>Bioactivity</b>        | Differentiation of naïve CD4 <sup>+</sup> T cells to the T <sub>H</sub> 2 type, proliferation/differentiation of activated B cells, expression of class II MHC antigens, and of low affinity IgE receptors in resting B cells  |
| <b>Cell Sources</b>       | Mast cells, T cells, bone marrow stromal cells   |
| <b>Cell Targets</b>       | B cells, T cells, monocytes, endothelial cells, fibroblasts  |
| <b>Receptors</b>          | Heterodimer IL-4R $\alpha$ (CD124); $\gamma$ -subunit (CD132) in common with IL-2R, IL-7R, IL-13R, IL-15R  |
| <b>Cell Type</b>          | Tregs  |
| <b>Biology Area</b>       | Immunology   |
| <b>Molecular Family</b>   | Cytokines/Chemokines   |
| <b>Antigen References</b> | <ol style="list-style-type: none"> <li>Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook</i>. Academic Press San Diego.</li> <li>Boulay J, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:294.</li> <li>Dullens H, <i>et al.</i> 1991. <i>In vivo</i> 5:567.</li> <li>Paul W. 1991. <i>Blood</i> 77:1859.</li> </ol> |
| <b>Regulation</b>         | Upregulated by IL-2, platelet activating factor; downregulated by TGF- $\beta$   |
| <b>Gene ID</b>            | <a href="#">16189</a>  |

## Related Protocols

---

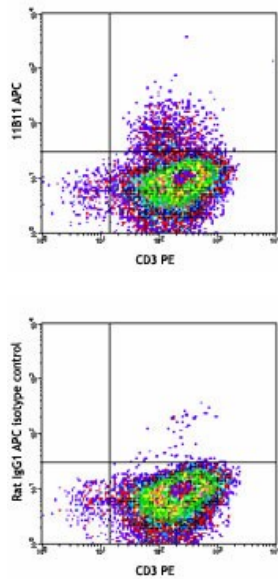
[Intracellular Cytokine Staining Protocol - Video](#)

[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



PMA+ionomycin-stimulated (6 hours, in presence of brefeldin A) Th2-polarized C57BL/6 CD4-positive cells were surface stained with CD3 PE and then intracellularly stained with IL-4 (11B11) APC (top) or rat IgG1,  $\kappa$  APC isotype control (bottom).

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](http://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](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587