

## PE/Dazzle™ 594 anti-mouse IL-4 Antibody

<b>Catalog# / Size</b>	504131 / 25 µg 504132 / 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 PE/Dazzle™ 594 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 ≤0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.  * PE/Dazzle™ 594 has a maximum excitation of 566 nm and a maximum emission of 610 nm.
<b>Excitation Laser</b>	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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. <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). <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> . <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.
<b>Application References</b>	1. Shirai A, <i>et al.</i> 1994. <i>Cytokine</i> 6:329. (ELISA, Neut) 2. Abrams J. 1995. <i>Curr. Prot. Immunol.</i> John Wiley and Sons New York. Unit 6.20. (ELISA, Neut)
<b>(PubMed link indicates</b>	

- BioLegend citation)**
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**
1. Trittel S, *et al.* 2019. *Sci Rep.* 9:16362. [PubMed](#)
  2. Turner JA, *et al.* 2020. *Immunity.* 53:1202. [PubMed](#)
  3. Sandler M, *et al.* 2020. *Gastroenterology.* 158:253. [PubMed](#)
  4. Rappaport AR, *et al.* 2022. *Nat Commun.* 13:3289. [PubMed](#)

**RRID** AB\_2564558 (BioLegend Cat. No. 504131)  
AB\_2564559 (BioLegend Cat. No. 504132)

## Antigen Details

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<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>1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press San Diego.</li><li>2. Boulay J, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:294.</li><li>3. Dullens H, <i>et al.</i> 1991. <i>In vivo</i> 5:567.</li><li>4. 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

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

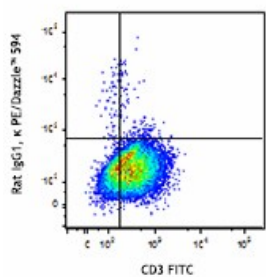
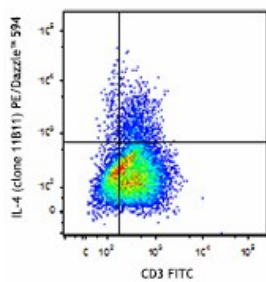
[Intracellular Flow Cytometry Staining Protocol](#)

## Other Formats

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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 the presence of brefeldin A) Th2-polarized C57BL/6 T cells were surface stained with CD3 FITC and then were intracellularly stained with IL-4 (clone 11B11) PE/Dazzle™ 594 (top), or rat IgG1, κ PE/Dazzle™ 594 isotype control (bottom).

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