

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

<b>Catalog# / Size</b>	500831 / 25 tests 500832 / 100 tests
<b>Clone</b>	MP4-25D2
<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 that is produced by activated T cells, mast cells, and basophils. IL-4 elicits many different biological responses but has two dominant functions. The first is regulating differentiation of naïve CD4 <sup>+</sup> T cell to the Th2 type. Th2 cells produce IL-4, IL-5, IL-10, and IL-13, which tend to favor a humoral immune response while suppressing a cell-mediated immune response controlled by Th1 cells. The second is regulating IgE and IgG1 production by B cells.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Pig, Rhesus
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	CHO-expressed, recombinant human IL-4
<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 PE/Dazzle™ 594 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>	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.  * 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 Detection</b> <sup>1,3</sup> or <b>ELISPOT Detection</b> <sup>4,5</sup> : The biotinylated MP4-25D2 antibody is useful as a detection antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with purified 8D4-8 antibody (Cat. No. 500702/500707) as the capture antibody. <b>Flow Cytometry</b> <sup>6,9</sup> : The fluorochrome-labeled MP4-25D2 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify IL-4 -producing cells within mixed cell populations. <b>Neutralization</b> <sup>1-3</sup> : The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for neutralization of human IL-4 bioactivity (Cat. No. 500815). The MP4-25D2 antibody can neutralize the bioactivity of natural or recombinant IL-4.
<b>Application References</b>	1. Chretien I, <i>et al.</i> 1989. <i>J. Immunol. Methods</i> 117:67. (ELISA Detection, Neut)

(PubMed link indicates BioLegend citation)

2. Ramanathan L, *et al.* 1993. *Biochem.* 32:3549. (Neut)
3. Abrams J, *et al.* 1992. *Immunol. Rev.* 127:5. (ELISA Detection, Neut)
4. Mahanty S, *et al.* 1992. *J. Immunol.* 148:3567. (ELISPOT Detection)
5. Klinman D, *et al.* 1994. *Curr. Prot. Immunol.* John Wiley and Sons New York. Unit 6.19. (ELISPOT Detection)
6. Prussin C, *et al.* 1995. *J. Immunol. Methods* 188:117. (ICFC)
7. Raqib R, *et al.* 1995. *Infect. Immun.* 63:289.
8. Andersson J, *et al.* 1994. *Immunology* 83:16.
9. Iwamoto S, *et al.* 2007. *J. Immunol.* 179:1449. (ICFC) [PubMed](#)
10. Kubota M, *et al.* 1997. *J. Immunol.* 158:5321.
11. Dzhagalov I, *et al.* 2007. *J. Immunol.* 178:2113. [PubMed](#)
12. Kroneke MA, *et al.* 2012. *J. Immunol.* 188:3734. [PubMed](#)

#### Product Citations

1. Solforosi L, *et al.* 2021. *J Exp Med.* :218. [PubMed](#)
2. Thieme CJ, *et al.* 2020. *Cell Rep Med.* 1:100092. [PubMed](#)

#### RRID

AB\_2564035 (BioLegend Cat. No. 500831)  
AB\_2564036 (BioLegend Cat. No. 500832)

## 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>	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. 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="#">3565</a>

## Related Protocols

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

[Intracellular Flow Cytometry Staining Protocol](#)

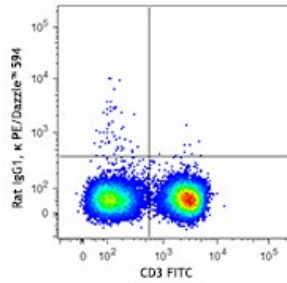
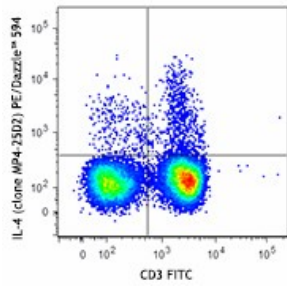
## Other Formats

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APC anti-human IL-4, Biotin anti-human IL-4, FITC anti-human IL-4, PE anti-human IL-4, Purified anti-human IL-4, Alexa Fluor® 488 anti-human IL-4, Alexa Fluor® 647 anti-human IL-4, Brilliant Violet 421™ anti-human IL-4, PerCP/Cyanine5.5 anti-human IL-4, PE/Cyanine7 anti-human IL-4, Brilliant Violet 605™ anti-human IL-4, Purified anti-human IL-4 (Maxpar® Ready), PE/Dazzle™ 594 anti-human IL-4, APC/Cyanine7 anti-human IL-4, Brilliant Violet 510™ anti-human IL-4, Ultra-LEAF™ Purified anti-human IL-4

## Product Data

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PMA + Ionomycin-stimulated (6 hours) human peripheral blood lymphocytes (in the presence of monensin) were stained with CD3 FITC, fixed, permeabilized, and then stained with IL-4 (clone MP4-25D2) PE/Dazzle™ 594 (top) or rat IgG1, κ PE/Dazzle™ 594 isotype control (bottom).

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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