

## APC anti-human IL-4 Antibody

<b>Catalog# / Size</b>	500811 / 25 tests 500812 / 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

---

<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>	test sizes: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA). µg size: 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>	µg sizes: 0.2 mg/mL test sizes: 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.
<b>Excitation Laser</b>	Red Laser (633 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. Su W, *et al.* 2022. *Front Immunol.* 13:952338. [PubMed](#)
2. Zhu Y, *et al.* 2019. *Cell Stem Cell.* 25:542. [PubMed](#)
3. Lozano-Ojalvo D, *et al.* 2021. *Cell Rep.* 36:109570. [PubMed](#)
4. Prakash MD, *et al.* 2021. *PLoS One.* 16:e0247492. [PubMed](#)

**RRID**

AB\_315130 (BioLegend Cat. No. 500811)  
AB\_315131 (BioLegend Cat. No. 500812)

## 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>	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

---

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

[Intracellular Flow Cytometry Staining Protocol](#)

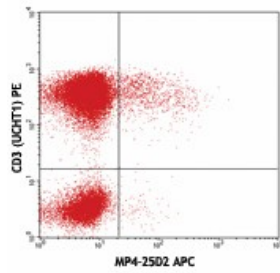
## Other Formats

---

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

---



PMA + ionomycin-stimulated (6 hours)  
human peripheral blood lymphocytes  
intracellular stained with MP4-25D2 APC  
and CD3 (UCHT1) PE

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