

## Biotin anti-human IL-4 Antibody

<b>Catalog# / Size</b>	500803 / 50 µg 500804 / 500 µg
<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>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">ELISA Detection</a> , <a href="#">ELISPOT Detection</a> , <a href="#">ICFC</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">ELISA assay</a> . For use as an ELISA detection antibody, a concentration range of 0.25-1.0 µg/ml is recommended. To obtain a linear standard curve, serial dilutions of human IL-4 protein ranging from 500 to 2 µg/ml are recommended for each ELISA plate.
<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>	<ol style="list-style-type: none"> <li>Chretien I, <i>et al.</i> 1989. <i>J. Immunol. Methods</i> 117:67. (ELISA Detection, Neut)</li> <li>Ramanathan L, <i>et al.</i> 1993. <i>Biochem.</i> 32:3549. (Neut)</li> <li>Abrams J, <i>et al.</i> 1992. <i>Immunol. Rev.</i> 127:5. (ELISA Detection, Neut)</li> <li>Mahanty S, <i>et al.</i> 1992. <i>J. Immunol.</i> 148:3567. (ELISPOT Detection)</li> <li>Klinman D, <i>et al.</i> 1994. <i>Curr. Prot. Immunol.</i> John Wiley and Sons New York. Unit 6.19. (ELISPOT Detection)</li> </ol>

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. Yan J, *et al.* 2020. *Cell Rep.* 107820:31. [PubMed](#)
2. Kurtaj A, *et al.* 2017. *J Allergy Clin Immunol.* 140:1746. [PubMed](#)

#### RRID

AB\_315122 (BioLegend Cat. No. 500803)  
 AB\_315123 (BioLegend Cat. No. 500804)

## 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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[Active Protocols: Sandwich ELISA - Video](#)

[Sandwich ELISA Protocol](#)

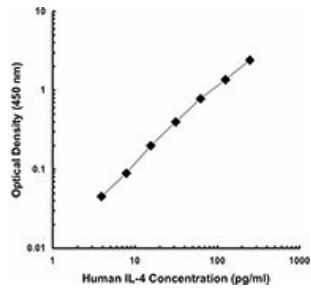
## Other Formats

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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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