

PerCP/Cyanine5.5 anti-mouse IL-4 Antibody

Catalog# / Size	504123 / 25 µg 504124 / 100 µg
Clone	11B11
Regulatory Status	RUO
Other Names	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)
Isotype	Rat IgG1, κ
Description	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

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Partially purified native mouse IL-4
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with PerCP/Cyanine5.5 under optimal conditions.
Concentration	0.2 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis . 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. * PerCP/Cyanine5.5 has a maximum absorption of 482 nm and a maximum emission of 690 nm.
Application Notes	ELISA^{1,2,10,13} or ELISPOT⁵ Capture: 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. Neutralization^{1-2,9,12}: 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). Additional reported applications (for the relevant formats) include: immunoprecipitation ¹⁶ , immunohistochemical staining of formalin-fixed paraffin-embedded tissue sections ⁸ and paraformaldehyde-fixed, saponin-treated frozen tissue sections ^{6,7} , and immunocytochemistry ⁴ . Note: 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.
Additional Product Notes	BioLegend is in the process of converting the name PerCP/Cy5.5 to PerCP/Cyanine5.5. The dye molecule remains the same, so you should expect the same quality and performance from our PerCP/Cyanine5.5 products. Contact Technical Service if you have any questions.
Application References	1. Shirai A, <i>et al.</i> 1994. <i>Cytokine</i> 6:329. (ELISA, Neut)

(PubMed link indicates BioLegend citation)

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)
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. Zhao Y, et al. 2015. PLoS One. 10: 0134797. [PubMed](#)
2. Makker P, et al. 2017. PLoS One. 10.1371/journal.pone.0170814. [PubMed](#)
3. Takahashi T, et al. 2017. J Exp Med. 10.1084/jem.20160247. [PubMed](#)
4. Faust HJ, et al. 2020. J Clin Invest. 130:5493. [PubMed](#)
5. Cai W, et al. 2020. J Immunol Res. 2019:2835256. [PubMed](#)
6. Nakornpakdee Y, et al. 2018. Asian Pac J Allergy Immunol. 36:265. [PubMed](#)
7. Steinmann S, et al. 2020. Sci Rep. 1.160416667. [PubMed](#)

RRID

AB_2561564 (BioLegend Cat. No. 504123)
AB_2561565 (BioLegend Cat. No. 504124)

Antigen Details

Structure	Cytokine; 15-19 kD (Mammalian)
Bioactivity	Differentiation of naive CD4 ⁺ T cells to the T _H 2 type, proliferation/differentiation of activated B cells, expression of class II MHC antigens, and of low affinity IgE receptors in resting B cells
Cell Sources	Mast cells, T cells, bone marrow stromal cells
Cell Targets	B cells, T cells, monocytes, endothelial cells, fibroblasts
Receptors	Heterodimer IL-4Rα (CD124); γ-subunit (CD132) in common with IL-2R, IL-7R, IL-13R, IL-15R
Cell Type	Tregs
Biology Area	Immunology
Molecular Family	Cytokines/Chemokines
Antigen References	1. Fitzgerald K, et al. Eds. 2001. The Cytokine FactsBook. Academic Press San Diego. 2. Boulay J, et al. 1992. <i>Curr. Opin. Immunol.</i> 4:294. 3. Dullens H, et al. 1991. <i>In vivo</i> 5:567. 4. Paul W. 1991. <i>Blood</i> 77:1859.
Regulation	Upregulated by IL-2, platelet activating factor; downregulated by TGF-β
Gene ID	16189

Related Protocols

[Intracellular Cytokine Staining Protocol - Video](#)

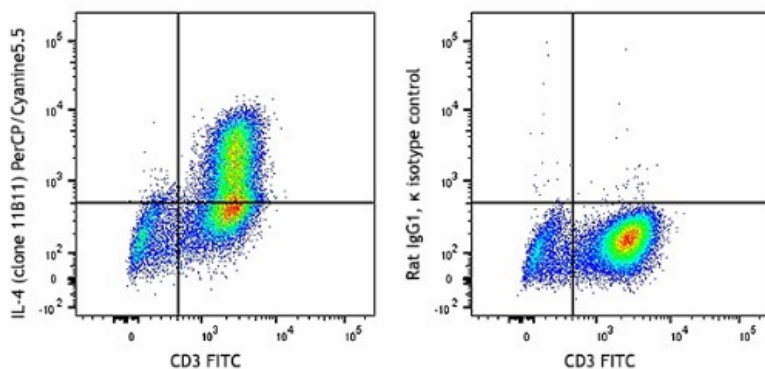
[Intracellular Flow Cytometry Staining Protocol](#)

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



Th2-polarized cells from C57BL/6 mouse T cells were stimulated with PMA, ionomycin for 6 hours (in presence of monensin). The cells were then stained with CD3 FITC and subsequently fixed, permeabilized, and intracellularly stained with IL-4 (clone 11B11) PerCP/Cyanine5.5 (left) or Rat IgG1, κ isotype control (right).

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