

APC anti-mouse IL-4 Antibody

Catalog# / Size	504105 / 25 µg 504106 / 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 APC 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 ≤1.0 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.
Excitation Laser	Red Laser (633 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.
Application References	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) 3. Assenmacher M, <i>et al.</i> 1994. <i>Eur. J. Immunol.</i> 24:1097. 4. Openshaw P, <i>et al.</i> 1995. <i>J. Exp. Med.</i> 182:1357. (ICC) 5. Klinman D, <i>et al.</i> 1994. <i>Curr. Prot. Immunol.</i> John Wiley and Sons New York. Unit 6.19. (ELISA
(PubMed link indicates BioLegend citation)	

Capture)

- Litton M, *et al.* 1994. *J. Immunol. Methods* 175:47. (IHC)
- Andersson U, *et al.* 1999. *Detection and quantification of gene expression*. New York:Springer-Verlag. (IHC)
- Fan WY, *et al.* 2001. *Exp. Biol. Med.* 226:1045. (IHC)
- Hara M, *et al.* 2001. *J. Immunol.* 166:3789. (Neut)
- Dzhagalov I, *et al.* 2007. *J. Immunol.* 178:2113. (ELISA)
- Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366.
- Wang W, *et al.* 2007. *J. Immunol.* 178:4885. (Neut)
- Xu G, *et al.* 2007. *J. Immunol.* 179:5358. (ELISA) [PubMed](#)
- Ohnmacht C, *et al.* 2008. *Blood* 113:2816. [PubMed](#)
- Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) [PubMed](#)
- Zavorotinskaya T, *et al.* 2003. *Mol. Ther.* 7:155. (IP)

Product Citations

- Elong Ngono A, *et al.* 2020. *Cell Reports*. 1.330555556. [PubMed](#)
- Mei S, *et al.* 2022. *Front Immunol.* 13:911164. [PubMed](#)
- Kim CJ, *et al.* 2018. *Immunity*. 49:1034. [PubMed](#)
- Castellanos CA, *et al.* 2021. *Sci Immunol.* 6:eabh0707. [PubMed](#)
- Cai B, *et al.* 2021. *Mol Cancer*. 20:165. [PubMed](#)
- Zhou HF, *et al.* 2022. *Front Pharmacol.* 13:778755. [PubMed](#)
- Pu Y, *et al.* 2022. *Transl Psychiatry*. 12:223. [PubMed](#)
- Yang L, *et al.* 2021. *Cell Death Differ.* 28:2616. [PubMed](#)
- Chang Q, *et al.* 2020. *Scand J Immunol.* 92:e12877. [PubMed](#)
- Mansouri S, *et al.* 2021. *J Immunol.* 206:2233. [PubMed](#)
- Hegde S, *et al.* 2020. *Cancer Cell.* 37(3):289-307. [PubMed](#)
- Guo J, *et al.* 2022. *Nat Biomed Eng.* 6:19. [PubMed](#)
- Zhang Y, *et al.* 2021. *J Immunol Res.* 2021:5599439. [PubMed](#)
- Jing Y, *et al.* 2020. *Sci Adv.* 6:eaax9455. [PubMed](#)
- Ren W, *et al.* 2018. *Mucosal Immunol.* 12:531. [PubMed](#)
- Yan J, *et al.* 2020. *Cell Rep.* 107820:31. [PubMed](#)
- Mansouri S, *et al.* 2020. *Mucosal Immunol.* 0.954861111. [PubMed](#)
- Jin R, *et al.* 2008. *J Immunol.* 180:2256. [PubMed](#)
- Kiuchi M, *et al.* 2021. *J Exp Med.* 218:. [PubMed](#)
- Li X, *et al.* 2016. *MBio.* 7: 02232-15. [PubMed](#)
- Zhang H, *et al.* 2021. *Cell Reports*. 35(6):109096. [PubMed](#)
- Wen J, *et al.* 2020. *Cell Rep.* 31:107566. [PubMed](#)
- Wawrzyniak M, *et al.* 2021. *Pharmacol Res Perspect.* 9:e00837. [PubMed](#)
- Fukuishi N, *et al.* 2014. *J Immunol.* 193:1886. [PubMed](#)
- Xu Y, *et al.* 2016. *Nat Commun.* 7:12073. [PubMed](#)
- Nakao R, *et al.* 2022. *NPJ Vaccines.* 7:153. [PubMed](#)
- Liu YW, *et al.* 2022. *JCI Insight.* 7:. [PubMed](#)
- DiMarco AV, *et al.* 2022. *Cancer Immunol Res.* 10:70. [PubMed](#)
- Yue T, *et al.* 2022. *Cell Death Differ.* 29:218. [PubMed](#)
- Mansouri S, *et al.* 2021. *J Immunol.* 206:2233. [PubMed](#)
- Timilshina M, *et al.* 2020. *Cell Reports*. 27(10):2948-2961.e7.. [PubMed](#)
- Du Z, *et al.* 2020. *J Allergy Clin Immunol.* . [PubMed](#)
- Chow AK, *et al.* 2021. *Cellular and Molecular Gastroenterology and Hepatology.* . [PubMed](#)
- Bing Wu *et al.* 2018. *Immunity.* 49(5):886-898 . [PubMed](#)

RRID

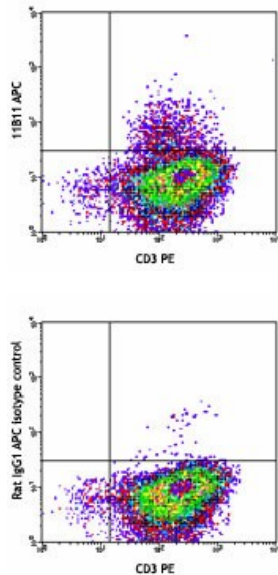
AB_315319 (BioLegend Cat. No. 504105)
AB_315320 (BioLegend Cat. No. 504106)

Antigen Details

Structure	Cytokine; 15-19 kD (Mammalian)
Bioactivity	Differentiation of naïve 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-4R α (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	<ol style="list-style-type: none">Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook</i>. Academic Press San Diego.Boulay J, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:294.Dullens H, <i>et al.</i> 1991. <i>In vivo</i> 5:567.Paul W. 1991. <i>Blood</i> 77:1859.

RegulationUpregulated by IL-2, platelet activating factor; downregulated by TGF- β **Gene ID**[16189](#)**Related Protocols**[Surface and Intracellular Cytokine Staining for Flow Cytometry - 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

PMA+ionomycin-stimulated (6 hours, in presence of brefeldin A) Th2-polarized C57BL/6 CD4-positive cells were surface stained with CD3 PE and then intracellularly stained with IL-4 (11B11) APC (top) or rat IgG1, κ APC isotype control (bottom).

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