

Ultra-LEAF™ Purified anti-mouse IL-4 Antibody

Catalog# / Size	504121 / 100 µg 504122 / 1 mg 504135 / 5 mg 504136 / 25 mg 504137 / 50 mg 504138 / 100 mg
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	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
Preparation	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
Concentration	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
Application	ELISA Capture - Quality tested CyTOF® - Verified ELISPOT Capture, Neut, ICC, IP, IHC - Reported in the literature, not verified in house
Recommended Usage	Each lot of this antibody is quality control tested by ELISA assay . For ELISPOT applications, a concentration range of 2-6 µg/ml is recommended. For ELISA capture applications, a concentration range of 0.5-2.0 µg/ml is recommended. To obtain a linear standard curve, serial dilutions of IL-4 recombinant protein ranging from 250 to 2 pg/ml are recommended for each ELISA plate. It is recommended that the reagent be titrated for optimal performance for each application.
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

Get a 50% discount on this product when purchased in our Activation Bundles. Restrictions apply. [Learn more...](#)

Application References

1. Shirai A, *et al.* 1994. *Cytokine* 6:329. (ELISA, Neut)
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. Ogbечи J, *et al.* 2022. *Front Immunol.* 13:1001956. [PubMed](#)
2. Kenichi Shimada *et al.* 2018. *Immunity.* 49(5):873-885. [PubMed](#)
3. Glaubitz J, *et al.* 2022. *Nat Commun.* 13:4502. [PubMed](#)
4. Imanishi T, *et al.* 2020. *Cell Reports.* 32(3):107911. [PubMed](#)
5. Jia X, *et al.* 2021. *Front Cell Dev Biol.* 9:685522. [PubMed](#)
6. Montes de Oca M, *et al.* 2020. *PLoS Pathog.* 16:e1008994. [PubMed](#)
7. Guo P, *et al.* 2021. *J Immunol.* 207:408. [PubMed](#)
8. Kanno T, *et al.* 2022. *Front Immunol.* 13:904875. [PubMed](#)
9. Xia X, *et al.* 2020. *J Clin Invest.* 130:5180. [PubMed](#)
10. Hao L, *et al.* 2021. *Br J Pharmacol.* 178:4726. [PubMed](#)
11. Price C, *et al.* 2020. *Cell Host & Microbe.* 27(4):571-584.e7. [PubMed](#)
12. Okubo A, *et al.* 2021. *Int J Mol Sci.* 23: [PubMed](#)
13. Ding X, *et al.* 2021. *Front Immunol.* 12:667136. [PubMed](#)

RRID

AB_11149679 (BioLegend Cat. No. 504121)
AB_11150601 (BioLegend Cat. No. 504122)
AB_2750404 (BioLegend Cat. No. 504135)
AB_2750405 (BioLegend Cat. No. 504136)
AB_2750406 (BioLegend Cat. No. 504137)
AB_2750407 (BioLegend Cat. No. 504138)

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">1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press San Diego.2. Boulay J, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:294.3. Dullens H, <i>et al.</i> 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

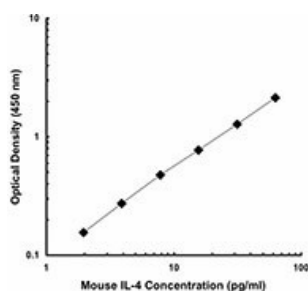
Active Protocols: [Sandwich ELISA - Video](#)

[Sandwich ELISA 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



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