

# Anti-Mouse IL-4 Antibody, Clone 11B11

Rat monoclonal antibody against mouse IL-4, unconjugated

Catalog #100-1621

100 µg

0.5 mg/mL

## Product Description

This monoclonal antibody reacts with mouse interleukin-4 (IL-4), a 14 kDa cytokine that is expressed by Th2-biased CD4+ T cells, mast cells, basophils, and eosinophils. IL-4 is a lymphoid cell growth factor and signals through the IL-4 receptor alpha chain (IL-4R $\alpha$ ) upon binding. This causes the stimulation of activated B and T lymphocytes as well as the differentiation of B cells into plasma cells. IL-4 has the capability to attach and transmit signals through three different cell surface receptors; CD124, CD124 in combination with the common gamma chain (type I complex), or CD124 combined with CD213a1 (type II complex). Signal transducer and activator of transcription 6 (STAT6) has been shown to play an important role in mediating the immune regulatory signal of IL-4. IL-4 has been shown to play a role in normal wound healing and the development of allergic inflammation and asthma.

<b>Target Antigen:</b>	IL-4
<b>Alternative Names:</b>	B cell growth factor 1, B cell IgG differentiation factor, B cell stimulatory factor 1 (BSF-1), IGG1 induction factor, interleukin-4, lymphocyte stimulatory factor 1
<b>Gene ID:</b>	16189
<b>Species Reactivity:</b>	Mouse
<b>Host Species:</b>	Rat
<b>Clonality:</b>	Monoclonal
<b>Clone:</b>	11B11
<b>Isotype:</b>	IgG1, kappa
<b>Immunogen:</b>	Partially purified mouse IL-4
<b>Conjugate:</b>	Unconjugated

## Applications

**Verified Applications:** FC

**Reported Applications:** FC, ICC, IHC-F

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; FCXM: Flow cytometric crossmatch assay; FISH: Fluorescence in situ hybridization; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IHC-F: Immunohistochemistry (frozen-tissue); IHC-P: Immunohistochemistry (paraffin-embedded); IP: Immunoprecipitation; NMR: Nuclear magnetic resonance spectroscopy; RIA: Radioimmunoassay; WB: Western blotting

## Properties

**Product Formulation:** Phosphate-buffered saline, pH 7.2, containing 0.09% sodium azide

**Purification:** The antibody was purified by affinity chromatography.

**Stability and Storage:** Product stable at 2 - 8°C when stored undiluted. Do not freeze. Stable until expiry date (EXP) on label.

**Directions for Use:** For flow cytometry, the suggested use of this antibody is  $\leq 1 \mu\text{g}$  per  $1 \times 10^6$  cells in 100  $\mu\text{L}$ . It is recommended that the antibody be titrated for optimal performance for each application.

## Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit [www.stemcell.com/antibodies](http://www.stemcell.com/antibodies), or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

- Brenner E et al. (2020) Cancer immune control needs senescence induction by interferon-dependent cell cycle regulator pathways in tumours. *Nat Commun* 11(1): 1335.
- Deng Z et al. (2019) Characterization of articular cartilage homeostasis and the mechanism of superior cartilage regeneration of MRL/MpJ mice. *FASEB J* 33(8): 8809–21.
- Guo J et al. (2022) Cancer vaccines from cryogenically silicified tumour cells functionalized with pathogen-associated molecular patterns. *Nat Biomed Eng* 6(1): 19–31.
- Huang L jie et al. (2021) Multiomics analyses reveal a critical role of selenium in controlling T cell differentiation in Crohn's disease. *Immunity* 54 (8): 1728–44.
- Ma X et al. (2020) Nanoparticle vaccines based on the receptor binding domain (RBD) and heptad repeat (HR) of SARS-CoV-2 elicit robust protective immune responses. *Immunity* 53(6): 1315–30.
- Noben-Trauth N et al. (1997) An interleukin 4 (IL-4)-independent pathway for CD4+ T cell IL-4 production is revealed in IL-4 receptor-deficient mice. *Proc Natl Acad Sci U S A* 94(20): 10838–43.
- Ong C et al. (1998) Anti-IL-4 treatment prevents dermal collagen deposition in the tight-skin mouse model of scleroderma. *Eur J Immunol* 28 (9):2619–29.
- Strait RT et al. (2003) IL-4 exacerbates anaphylaxis. *J Immunol* 170(7): 3835–42.
- Wang JJ et al. (1989) Immunocytochemical demonstration of the binding and internalization of growth hormone, b-cell stimulating factor-1 and thy-1.2 in murine lymphocytes. *Acta Histochem Cytochem* 22(1): 77–88.
- Wu B et al. (2018) RAS P21 protein activator 3 (RASA3) specifically promotes pathogenic T helper 17 cell generation by repressing T helper 2-biased programs. *Immunity* 49(5): 886–98.
- Wu J et al. (2017) Ablation of transcription factor IRF4 promotes transplant acceptance by driving allogeneic CD4+ T cell dysfunction. *Immunity* 47 (6): 1114–28.

## Anti-Mouse IL-4 Antibody, Clone 11B11

PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2024 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.