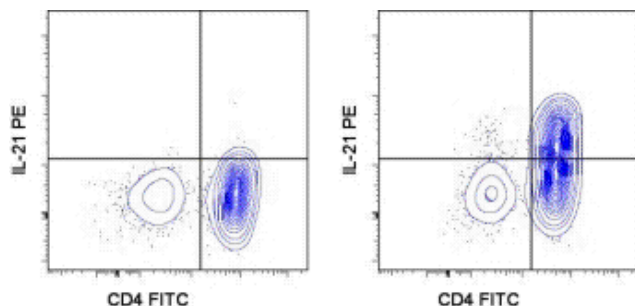


Anti-Mouse IL-21 PE

Catalog Number: 12-7213

Also Known As: Interleukin-21

RUO: For Research Use Only. Not for use in diagnostic procedures.



Staining of 12-day Th17-polarized BALB/c splenocytes with Anti-Mouse CD4 FITC (cat. 11-0042) and 0.125 µg of Anti-Mouse IL-21 PE. Cells were treated with Brefeldin A (cat. 00-4506) alone (left) or PMA, Ionomycin, and Brefeldin A (right) for 5 hours prior to intracellular staining. Cells in the lymphocyte gate were used for analysis.

Product Information

Contents: Anti-Mouse IL-21 PE

REF **Catalog Number:** 12-7213

Clone: mhalx21

Concentration: 0.2 mg/ml

Host/Isotype: Rat IgG2a, kappa

Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer

 **Temperature Limitation:** Store at 2-8°C. Do not freeze. Light sensitive material.

LOT **Batch Code:** Refer to Vial

 **Use By:** Refer to Vial

Description

The monoclonal antibody mhalx21 reacts with mouse interleukin-21 (IL-21). IL-21 is a 17 kDa immunomodulatory cytokine produced mainly by NKT, T helper (Th) 17 and T follicular helper (T_{FH}) cells. In T_{FH} cells, IL-21 expression leads to autocrine signaling through the IL-21 receptor (IL-21R) and STAT3, which leads to additional transcriptional activation by Bcl6. As with IFN γ for Th1, IL-4 for Th2 and IL-17A for Th17, IL-21 is critical for T_{FH} cell effector function. This cytokine plays a role in T cell-dependent B cell differentiation into plasma cells and memory cells, stimulation of IgG production and induction of apoptotic signaling in naive B cells.

In Th17 cells, IL-21 expression and autocrine feedback through STAT3, IRF4 and ROR γ t lead to upregulation of the IL-23R, thereby preparing Th17 cells for maturation and maintenance by the inflammatory cytokine IL-23. While upregulating IRF4 and ROR γ t, IL-21 also mediates the downregulation of Foxp3. High levels of IL-21 are present in chemically-induced colitis models. IL-21-deficient mice are protected from developing colitis upon chemical treatment by their inability to upregulate Th17-associated molecules.

Preliminary data suggest that clone mhalx21 recognizes a different epitope than anti-mouse IL-21 clone FFA21 (cat. 51-7211).

Applications Reported

This mhalx21 antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

This clone has been optimized for use with eBioscience IC Fixation and Permeabilization kit (cat. 88-8823).

Applications Tested

This mhalx21 antibody has been tested on Th17-polarized splenocytes restimulated with PMA, Ionomycin and Brefeldin A for 5 hours. This can be used at less than or equal to 0.25 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10⁵ to 10⁸ cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Konforte D, Paige CJ. Interleukin-21 regulates expression of the immediate-early lytic cycle genes and proteins in Epstein-Barr Virus infected B cells. *Virus Res.* 2009 Sep;144(1-2):339-43.

Pot C, Jin H, Awasthi A, Liu SM, Lai CY, Madan R, Sharpe AH, Karp CL, Miaw SC, Ho IC, Kuchroo VK. Cutting edge: IL-27 induces the transcription factor c-Maf, cytokine IL-21, and the costimulatory receptor ICOS that coordinately act together to promote differentiation of IL-10-producing Tr1 cells. *J Immunol.* 2009 Jul 15;183(2):797-801.

Elsaesser H, Sauer K, Brooks DG. IL-21 is required to control chronic viral infection. *Science.* 2009 Jun 19;324(5934):1569-72.

Bauquet AT, Jin H, Paterson AM, Mitsdoerffer M, Ho IC, Sharpe AH, Kuchroo VK. The costimulatory molecule ICOS regulates the expression of c-Maf and IL-21 in the development of follicular T helper cells and TH-17 cells. Nat Immunol. 2009 Feb;10(2):167-75.

Related Products

00-4506 Brefeldin A Solution

00-4975 Cell Stimulation Cocktail (plus protein transport inhibitors) (500X)

11-0042 Anti-Mouse CD4 FITC (RM4-5)

45-7177 Anti-Mouse IL-17A PerCP-Cy5.5 (eBio17B7)

48-0042 Anti-Mouse CD4 eFluor® 450 (RM4-5)

50-7211 Anti-Mouse IL-21 eFluor® 660 (Alexa Fluor® 647 Replacement) (FFA21)

50-7471 Anti-Mouse IL-17F eFluor® 660 (Alexa Fluor® 647 Replacement) (eBio18F10)

88-8411 Mouse Th17 Cytokine Staining Panel

88-8823 Fixation & Permeabilization Buffers

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