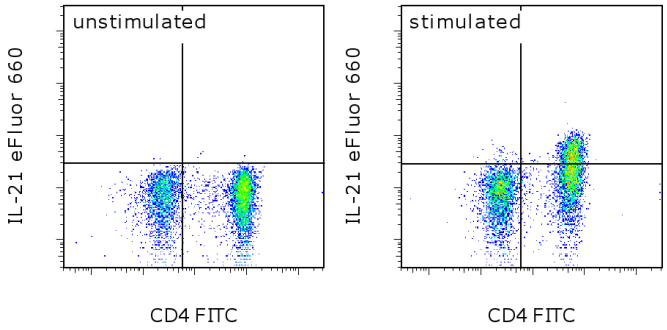
Anti-Mouse IL-21 eFluor® 660 (Alexa Fluor® 647 Replacement)

Catalog Number: 50-7211
Also known as: Interleulin-21
RUO: For Research Use Only. Not for use in diagnostic procedures.



Intracellular staining of 10-day Th17-polarized BALB/c splenocytes unstimulated (left) or stimulated for 5 hours with Cell Stimulation Cocktail (plus protein transport inhibitors) (cat. 00-4975) (right) with Anti-Mouse CD4 FITC (cat. 11-0042) and 0.125 ug of Rat IgG2a K Isotype Control eFluor® 660 (cat. 50-4321) or 0.125 ug of Anti-Mouse IL-21 eFluor® 660. Viable cells (as determined by Fixable Viability Dye eFluor® 450 [cat. 65-0863]) were used for analysis.

Product Information

Contents: Anti-Mouse IL-21 eFluor® 660 (Alexa Fluor® 647 Replacement)
REF **Catalog Number:** 50-7211
Clone: FFA21
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
Contains sodium azide

Description

This FFA21 monoclonal antibody 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 gamma for Th1, IL-4 for Th2 and IL-17A for Th17, IL-21 is critical for TFH 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 naïve B cells.

In Th17 cells, IL-21 expression and autocrine feedback through STAT3, IRF4 and ROR gamma 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 gamma 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 FFA21 recognizes a different epitope than anti-mouse IL-21 clone mhalx21 (cat. 51-7213).

Applications Reported

This FFA21 antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

Applications Tested

This FFA21 antibody has been tested by intracellular staining and flow cytmetric analysis of Th17 stimulated mouse cells. 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 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

eFluor® 660 is a replacement for Alexa Fluor® 647. eFluor® 660 emits at 659 nm and is excited with the red

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laser (633 nm). Please make sure that your instrument is capable of detecting this fluorochome.

References

Cedeno-Laurent F, Opperman M, Barthel SR, Kuchroo VK, Dimitroff CJ. Galectin-1 triggers an immunoregulatory signature in Th cells functionally defined by IL-10 expression. J Immunol. 2012 Apr 1;188(7):3127-37. (**FFA21**, in vitro neutralization, PubMed).

Eto D, Lao C, DiToro D, Barnett B, Escobar TC, Kageyama R, Yusuf I, Crotty S. IL-21 and IL-6 are critical for different aspects of B cell immunity and redundantly induce optimal follicular helper CD4 T cell (Tfh) differentiation. PLoS One. 2011 Mar 14;6(3):e17739. (**FFA21**, in vitro neutralization, PubMed)

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.

Nurieva R, Yang XO, Martinez G, Zhang Y, Panopoulos AD, Ma L, Schluns K, Tian Q, Watowich SS, Jetten AM, Dong C. Essential autocrine regulation by IL-21 in the generation of inflammatory T cells. Nature. 2007 Jul 26;448(7152):480-3.

Related Products

00-4975 Cell Stimulation Cocktail (plus protein transport inhibitors) (500X)
11-0042 Anti-Mouse CD4 FITC (RM4-5)
12-7177 Anti-Mouse/Rat IL-17A PE (eBio17B7)
50-4321 Rat IgG2a K Isotype Control eFluor® 660 (Alexa Fluor® 647 Replacment) (eBR2a)
65-0863 Fixable Viability Dye eFluor® 450
88-8824 Intracellular Fixation & Permeabilization Buffer Set

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