IL-21 Monoclonal Antibody (FFA21), eFluor™ 450, eBioscience™

Product Details	
Size	100 µg
Species Reactivity	Mouse
Host/Isotype	Rat / IgG2a, kappa
Recommended Isotype Control	Rat IgG2a kappa Isotype Control (eBR2a), eFluor™ 450, eBioscience™
Class	Monoclonal
Type	Antibody
Clone	FFA21
Conjugate	eFluor™ 450
Excitation/Emission Max	405/445 nm
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_2811832

Applications	Tested Dilution	Publications
Flow Cytometry (Flow)	1.0 µg/test	1 Publication

Product Specific Information

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 (TFH) cells. In TFH 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 naive 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.

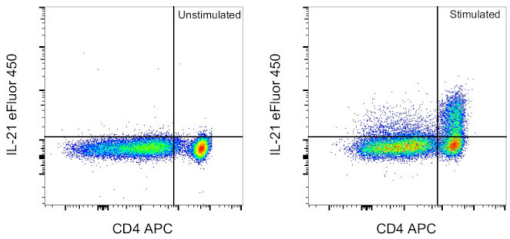
Applications Tested: This FFA21 antibody has been tested by intracellular staining followed by flow cytometric analysis of Th17-polarized mouse splenocytes restimulated with PMA, ionomycin and brefeldin A for 5 hours, using the Intracellular Fixation & Permeabilization Buffer Set (Product # 88-8824-00) and protocol. Please refer to "Staining Intracellular Antigens for Flow Cytometry, Protocol A: Two step protocol for intracellular (cytoplasmic) proteins" located at www.thermofisher.com

/flowprotocols. This may be used at less than or equal to 1.0 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 450 is an alternative to Pacific Blue. eFluor 450 emits at 446 nm and is excited with the violet laser line (405 nm). Please make sure that your instrument is capable of detecting this fluorochrome.

Excitation: 405 nm; Emission: 445 nm; Laser: Violet Laser

Product Images For IL-21 Monoclonal Antibody (FFA21), eFluor™ 450, eBioscience™



IL-21 Antibody (48-7211-82) in Flow
Th17-polarized C57BL/6 mouse splenocytes were stained intracellularly, using the Intracellular Fixation & Permeabilization Buffer Set (Product # 88-8824-00) and protocol, with CD4 Monoclonal Antibody, APC (Product # 17-0042-82) and 0.5 µg of IL-21 Monoclonal Antibody, eFluor 450. Cells were polarized for 9 days and then treated for 5 hours with Brefeldin A alone (Product # 00-4506-51) (left) or Cell Stimulation Cocktail (plus protein transport inhibitors) (Product # 00-4975-03) (right). Viable cells were used for analysis, as determined by Fixable Viability Dye eFluor 506 (Product # 65-0866-18).

1 Reference

Flow Cytometry (1)

Malaria journal

Year
2021

Characterization of T cells in lung of Plasmodium yoelii-infected C57BL /6 mice.

"Published figure using IL-21 monoclonal antibody (Product # 48-7211-82) in Flow Cytometry"

Authors: Wei H,Jin C,Peng A,Xie H,Xie S,Feng Y,Xie A,Li J,Fang C,Yang Q,Qiu H,Qi Y,Yin Z,Wang X,Huang J