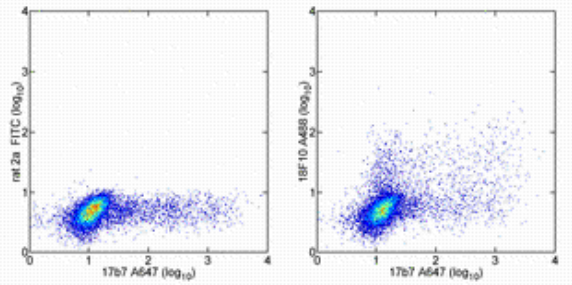
Anti-Mouse IL-17F Alexa Fluor® 488

Catalog Number: 53-7471
Also Known As: Interleukin-17F
For Research Use Only. Not for use in diagnostic procedures.



Intracellular staining of EL-4 cells stimulated with PMA/Ionomycin in the presence of monensin with Anti-Mouse IL-17A Alexa Fluor® 647 and 0.25 ug of Rat IgG2a kappa Isotype Control Alexa Fluor® 488 (cat. 53-4321) (left) or 0.25 ug of Anti-Mouse IL-17F Alexa Fluor® 488 (right).

Product Information

Contents: Anti-Mouse IL-17F Alexa Fluor® 488
REF **Catalog Number:** 53-7471
Clone: eBio18F10
Concentration: 0.5 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 eBio18F10 antibody reacts with mouse IL-17F. IL-17F is a 37 kD homodimer of the IL-17 family and a signature Th17 marker. Of all the six IL-17 family members, IL-17F and IL-17A share the strongest homology (50% amino acid identity), and the two genes are located in the same chromosomal region. Recent studies have demonstrated coordinated regulation of IL-17A and IL-17F during Th17 differentiation. Expression of IL-17F and IL-17A has been detected in activated human peripheral blood lymphocytes, specifically by activated human CD4+ T cells. In addition to IL-17A, differentiated Th17 cells also produce IL-17F and IL-22 upon re-activation. Like IL-17A, IL-17F has been linked with inflammatory diseases. IL-17F and IL-17A expression has been observed in tissue samples from various autoimmune diseases, such as rheumatoid arthritis, multiple sclerosis, psoriasis, inflammatory bowel disease, and asthma. IL-17F treatment of airway epithelium, vein endothelial cells, and fibroblasts has been reported to induce expression of IL-6, IL-8, GRO-α, ENA-78, TGF-β, MCP-1, G-CSF, GM-CSF, and ICAM-1.

Like IL-17A, IL-17F is a disulfide-linked homodimeric glycoprotein. The IL-17F homodimer includes a classical cysteine knot motif, which is found also in the TGF-β, BMP, and NGF superfamilies. The presence of the cysteine knot motif suggested the possibility of a heterodimeric structure, as was reported for TGF-β and inhibin/activin. Recent reports confirm that co-expression of IL-17F and IL-17A in HEK293 cells results in the formation of biologically active IL-17F/IL-17A heterodimers, in addition to the IL-17F homodimers and IL-17A homodimers. Moreover, activated human CD4+ T cells were found to produce the IL-17A/F heterodimer, along with the corresponding homodimers. In comparing the relative potency of IL-17A, IL-17F, and IL-17A/F, all three were found to induce GRO-α secretion; IL-17A was most potent, followed by IL-17A/F heterodimer, then IL-17F (100-fold lower than IL-17A). In the mouse, the IL-17A/F heterodimer (alone or in synergy with TNF-α) was found to regulate the expression of IL-6 and KC (mouse homolog of human GRO-α); this was found to be dependent on IL-17RA and TRAF6.

Applications Reported

The eBio18F10 antibody has been reported useful for intracellular staining and flow cytometric analysis.

Applications Tested

This eBio18F10 antibody has been tested by intracellular staining and flow cytometric analysis of in vitro-differentiated mouse Th17 cell cultures and on the EL-4 cell line. This can be used at less than or equal to 0.5 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.

References

Ghoreschi K, Laurence A, Yang XP, Tato CM, McGeachy MJ, Konkel JE, Ramos HL, Wei L, Davidson TS, Bouladoux N, Grainger JR, Chen Q, Kanno Y, Watford WT, Sun HW, Eberl G, Shevach EM, Belkaid Y, Cua DJ, Chen W, O'Shea JJ.Generation of pathogenic T(H)17 cells in the absence of TGF beta signalling. Nature. 2010 Oct 21;467(7318):967-71 (**18F10**, IC Flow, Pubmed)

Chang SH, Dong C. A novel heterodimeric cytokine consisting of IL-17 and IL-17F regulates inflammatory responses. Cell Res. 2007 May;17 (5):435-40.

Lee YK, Turner H, Maynard CL, Oliver JR, Chen D, Elson CO, Weaver CT. Late developmental plasticity in the T helper 17 lineage. Immunity. 2009 Jan;30(1):92-107. (**18F10**, IC Flow, Pubmed)

Liang SC, Tan XY, Luxenberg DP, Karim R, Dunussi-Joannopoulos K, Collins M, Fouser LA. Interleukin (IL)-22 and IL-17 are coexpressed by Th17 cells and cooperatively enhance expression of antimicrobial peptides. J Exp Med. 2006 Oct 2;203(10):2271-9.

Wright JF, Guo Y, Quazi A, Luxenberg DP, Bennett F, Ross JF, Qiu Y, Whitters MJ, Tomkinson KN, Dunussi-Joannopoulos K, Carreno BM, Collins M, Wolfman NM. Identification of an interleukin 17F/17A heterodimer in activated human CD4+ T cells. J Biol Chem. 2007 May 4;282(18):13447-55.

Related Products

45-7177 Anti-Mouse/Rat IL-17A PerCP-Cy5.5 (eBio17B7)
53-4321 Rat IgG2a K Isotype Control Alexa Fluor® 488 (eBR2a)
88-8411 Mouse Th17 Cytokine Staining Panel
88-8823 Fixation & Permeabilization Buffers

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