Mouse IL-17F Antibody

Monoclonal Rat IgG_{2A} Clone # 316016

Catalog Number: MAB2057

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-17F in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse (rm) IL-17, rmIL-17B, C, D, E, or recombinant human IL-17F is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 316016
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant mouse IL-17F Arg29-Ala161 Accession # Q7TNI7
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

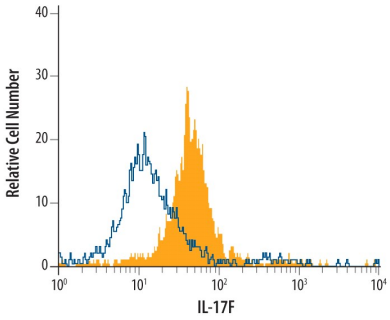
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse IL-17F (Catalog # 2057-IL)
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Intracellular Staining by Flow Cytometry



Detection of IL-17F in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were treated for 24 hr with 50 ng/mL PMA, 200 ng/mL Ca^{2+} ionomycin, 10 ng/mL Recombinant Human TGF-β (Catalog # 240-B), and 40 ng/mL Recombinant Mouse IL-6 (Catalog # 406-ML), then stained with Rat Anti-Mouse IL-17F Monoclonal Antibody (Catalog # MAB2057, filled histogram) or isotype control antibody (Catalog # MAB006, open histogram), followed by Phycoerythrin-conjugated Anti-Rat IgG $F(ab')_2$ Secondary Antibody (Catalog # F0105B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Catalog Number: MAB2057

BACKGROUND

The Interleukin 17 (IL-17) family proteins, comprised of six members (IL-17, IL-17B through IL-17F), are secreted, structurally related proteins that share a conserved cysteine-knot fold near the C-terminus, but have considerable sequence divergence at the N-terminus. With the exception of IL-17B, which exists as a non-covalently linked dimer, all IL-17 family members are disulfide-linked dimers. IL-17 family proteins are pro-inflammatory cytokines that induce local cytokine production and are involved in the regulation of immune functions (1, 2).

Mouse IL-17F cDNA encodes a 153 amino acid (aa) protein with a putative 20 aa signal peptide. Among IL-17 family members, IL-17F is most closely related to IL-17 sharing approximately 46% aa sequence identity. Mouse and human IL-17F share 55% sequence identity. IL-17F is expressed in activated $CD4^+$ T cells and activated monocytes. Two receptors (IL-17 R, and IL-17B R), which are activated by IL-17 family members have been identified. In addition, at least three additional type I transmembrane receptors with homology to IL-17 R, including IL-17 RL (IL-17 RC), IL-17 RD, and IL-17 RE, have also been reported (1, 2, 5). The functions for IL-17 RC, D, and E are not known. Purified IL-17 R and IL-17B R do not bind IL-17F with high-affinity *in vitro*. However, binding of IL-17F is detected in cells transfected with IL-17 R, raising the possibility that a co-receptor may be required for IL-17F signaling through IL-17 R (4). The biological activities mediated by IL-17F are similar to those of IL-17. IL-17F stimulates production of IL-6, IL-8, G-CSF, and regulates cartilage matrix turnover by increasing matrix release and inhibiting new matrix synthesis (4). IL-17F also inhibits angiogenesis and induces production of IL-2, TGF-β, and monocyte chemoattractant protein-1 in endothelial cells (3).

References:

1. Aggarwal, S. and A.L. Gurney (2002) J. Leukoc. Biol. **71**:1.
2. Moseley, T.A. *et al.* (2003) Cytokine & Growth Factor Rev. **14**:155.
3. Starnes, T. *et al.* (2001) J. Immunol. **167**:4137.
4. Hurst, S.D. *et al.* (2002) J. Immunol. **169**:443.
5. Haudenschild, D. *et al.* (2002) J. Biol. Chem. **277**:4309.

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