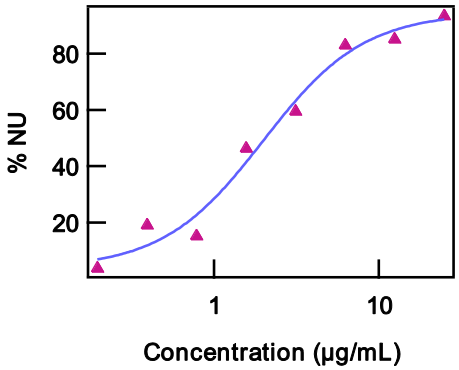
Anti-Mouse IL-17F Functional Grade Purified

Catalog Number: 16-7473
RUO: For Research Use Only. Not for use in diagnostic procedures.



Neutralization of Mouse IL-17F Recombinant Protein activity as measured by IL-6 induction in NIH/3T3 cells

Product Information

Contents: Anti-Mouse IL-17F Functional Grade Purified
REF **Catalog Number:** 16-7473
Clone: RN17
Concentration: 1 mg/mL
Host/Isotype: Rat IgG1, kappa
Handling Conditions: Use in sterile environment.
Endotoxin: Less than 0.001 ng/ug antibody, as determined by the LAL assay.

Formulation: aqueous buffer, no sodium azide
Temperature Limitation: Store at 2-8°C. Avoid repeated freeze-thaw cycles. KEEP CONTENTS STERILE.
LOT **Batch Code:** Refer to vial
Use By: Refer to vial

Description

The monoclonal antibody RN17 reacts with and inhibits the bioactivity of mouse IL-17F. IL-17F is a 37kD 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 (100fold 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.

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Applications Reported
This monoclonal antibody reacts with and inhibits the bioactivity of mouse IL-17F.

Applications Tested
The ND_{50} of RN17 as measured by the inhibition of mouse IL-6 induction in NIH/3T3 cells is 1-6 µg/ml in the presence of 4 µg/ml of recombinant mouse IL-17F. Neutralization dose will vary depending on assay method, cytokine concentration, and cell type. This antibody should be carefully titrated for optimal performance in the assay of interest.

References
Chang, S.H., et al. 2007. A novel heterodimeric cytokine consisting of IL-17 and IL-17F regulates inflammatory responses. Cell Res. Advance online publication. 24 April 2007. doi: 10.1038.

Wright, J.F., et al. 2007. Identification of an IL-17F/17A heterodimer in activated human CD4+ T cells. JBC. 282: 13447-13455.

Liang, S.C., et al. 2006. IL-22 and IL-17 are coexpressed by Th17 cells and cooperatively enhance expression of anti-microbial peptides. J. Exp. Med. 203: 2271-2279.

Related Products
12-7471 Anti-Mouse IL-17F PE (eBio18F10)
34-8471 Mouse IL-17F Recombinant Protein Carrier-Free
50-7471 Anti-Mouse IL-17F eFluor® 660 (Alexa Fluor® 647 Replacement) (eBio18F10)
53-7471 Anti-Mouse IL-17F Alexa Fluor® 488 (eBio18F10)
88-7472 Mouse IL-17F (homodimer) ELISA Ready-SET-Go!® Set

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