full spectrum cell analysis
eBioscience

Tel: 888.999.1371 or 858.642.2058
Fax: 858.642.2046
Web: www.ebioscience.com
E-mail: info@ebioscience.com

Product Information

Contents: Carrier-Free Recombinant Mouse IL-17F (Interleukin-17F, IL17F)
Catalog Number: 34-8471
Sizes: 100 ug, 500 ug
Formulation: Sterile liquid; 0.1M Glycine HCl, pH 3.0 with no carriers or stabilizers. 0.22 uM filtered.
Storage Conditions: For greatest stability, keep concentration of primary stock at or above 10 µg/ml. For long term storage, aliquot into polypropylene vials (volumes of 20 µl or greater) and store at or below -80°C. Avoid repeated freeze/thaw cycles.
Handling Conditions: For best recovery, always quick-spin vial prior to opening. For dilution of current stock, always include carrier protein (1% BSA or 10% FBS) in the buffered saline diluent.
Source: E. coli expressed amino acids 21-153 of mature mouse IL-17F (accession # NM_145856).
Molecular Mass: The protein does not contain an N-terminal methionine. The polypeptide has a predicted molecular mass of 14,883.
Purity: Greater than 98% as determined by SDS-PAGE
Endotoxin Level: Less than 0.01 ng/ug cytokine as determined by the LAL assay.
Bioactivity: Measured by induction of IL-6 production by NIH/3T3 cells. The ED50 is 2.0 ug/ml, corresponding to a specific activity of 5.0 x 10E2 Units/mg.

Available Formats of This Product

Cat. No.	Format	Excite (nm)	Emit (nm)	Reported Applications
34-8471	Mouse IL-17F Recombinant Protein Carrier-Free	N/A	N/A	BA

Flow Cytometry Product Notes:
Test Sizes: To accommodate multicolor flow cytometry, eBioscience is in the process of reducing test size volumes from 20 µl to 5 µl. Please check your antibody vial for the recommended test size.
Fluorochrome Replacements: eBioscience is in the process of replacing all Pacific Blue® and APC-Alexa Fluor® 750 conjugated products with eFluor™ 450 and APC-eFluor™ 780 conjugated products, respectively.

Custom Product Requests

Need a custom product? Download the Custom Product Request Form and submit completed form to customs@ebioscience.com.

Questions? Please consult our answers to frequently asked questions at http://www.ebioscience.com/faq.

Description

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.

Applications Reported

For research use only, not for diagnostic or therapeutic use. Recombinant mouse IL-17F is biologically active and can promote IL-6 production in vitro. The recombinant mouse IL-17F is also useful as an ELISA standard.

Applications Tested

The recombinant mouse IL-17F has been tested as the standard in a mouse IL-17F sandwich ELISA and in bioassay for induction of IL-6 production by NIH/3T3 cells. The ED50 is 2.0 ug/ml, corresponding to a specific activity of 5.0 x 10E2 Units/mg.

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

Cat. 16-7173	Functional Grade Purified anti-mouse IL-17A (Interleukin-17A, IL17A) (clone eBioMM17F3)
Cat. 11-7177	Fluorescein isothiocyanate (FITC) anti-mouse IL-17A (Interleukin-17A, IL17A) (clone eBio17B7)
Cat. 88-7370	Mouse IL-17A (Interleukin-17A, IL17A) ELISPOT Ready-Set-Go!
Cat. 88-7371	Mouse IL-17A (Interleukin-17A, IL17A) ELISA Ready-SET-Go!
Cat. 51-7471	Alexa Fluor® 647 anti-mouse IL-17F (Interleukin-17F) (clone eBio18F10)
Cat. 34-8061	Carrier-Free Recombinant Mouse IL-6 (Interleukin-6, IL6)
Cat. 34-8171	Carrier-Free Recombinant Mouse IL-17A (Interleukin-17A, IL17A)
Cat. 34-8348	Carrier-Free Recombinant Human TGFb1 (Transforming Growth Factor beta 1, TGF-beta1, TGF-b1)