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IL-17F

Catalog # PVGS1053

Product Information

Primary Accession	Q96PD4
Species	Human
Sequence	Arg31-Gln163, expressed with an N-terminal Met
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by inducing IL-6 secretion of murine NIH/3T3 cells is less than 20.0 ng/ml, corresponding to a specific activity of > 5.0×10^4 IU/mg.
Expression System	E. coli
Theoretical Molecular Weight	30.1 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.2, with trehalose.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in 4 mM HCl up to 100 μg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	112744
Other Names	Interleukin-17F, IL-17F, Cytokine ML-1, IL17F
Target Background	Human IL-17F is synthesized as a 153 aa precursor with a 20 aa signal sequence and a 133 aa mature region. Like IL-17A, IL-17F contains one potential site for N-linked glycosylation. IL-17A and IL-17F share 50% aa sequence identity. IL17-F homodimer is produced by an activated subset of $CD4^+$ T cells, termed Th17. IL17-F has been shown to stimulate proliferation and activation of T-cells and PBMCs. IL-17F also regulates cartilage matrix turnover and inhibits angiogenesis.

Protein Information

Name	IL17F
Function	Effector cytokine of innate and adaptive immune system involved in antimicrobial host defense and maintenance of tissue integrity (PubMed:21350122). IL17A-IL17F signals via IL17RA-IL17RC heterodimeric receptor complex, triggering homotypic interaction of IL17RA and IL17RC chains with TRAF3IP2 adapter through SEFIR domains. This leads to downstream TRAF6-mediated activation of NF-kappa-B and MAPkinase pathways ultimately resulting in transcriptional activation of cytokines, chemokines, antimicrobial peptides and matrix metalloproteinases, with potential strong immune inflammation (PubMed:11574464, PubMed:11591732, PubMed:11591768, PubMed:17911633, PubMed:18684971, PubMed:21350122, PubMed:28827714). IL17A-IL17F is primarily involved in host defense against extracellular bacteria and fungi by inducing neutrophilic inflammation (By similarity). As signature effector cytokine of T-helper 17 cells (Th17), primarily induces neutrophil activation and recruitment at infection and inflammatory sites (By similarity). Stimulates the production of antimicrobial beta-defensins DEFB1, DEFB103A, and DEFB104A by mucosal epithelial cells, limiting the entry of microbes through the epithelial barriers (By similarity). IL17F homodimer can signal via IL17RC homodimeric receptor complex, triggering downstream activation of TRAF6 and NF-kappa-B signaling pathway (PubMed:32187518). Via IL17RC induces transcriptional activation of IL33, a potent cytokine that stimulates group 2 innate lymphoid cells and adaptive T-helper 2 cells involved in pulmonary allergic response to fungi. Likely via IL17RC, promotes sympathetic innervation of peripheral organs by coordinating the communication between gamma-delta T cells and parenchymal cells. Stimulates sympathetic innervation of thermogenic adipose tissue by driving TGFB1 expression (By similarity). Regulates the composition of intestinal microbiota and immune tolerance by inducing antimicrobial proteins that specifically control the growth of commensal Firmicutes and Bacteroidetes (By similarity).
Cellular Location	Secreted {ECO:0000250|UniProtKB:Q7TNI7}.
Tissue Location	Expressed in T-helper 1 and T-helper 2 cells, basophils and mast cells.