

IL-17, Mouse

Catalog # PVGS1276

Product Information

Primary Accession Sequence	<u>Q62386</u> Ala ²⁶ -Ala ¹⁵⁸ (accession number: Q62386), expressed with an N-terminal Met.
Purity	> 95% as analyzed by SDS-PAGE and HPLC.
Endotoxin Level	

Additional Information

Gene ID	16171
Other Names	Interleukin-17A, IL-17, IL-17A, Cytotoxic T-lymphocyte-associated antigen 8, CTLA-8, Il17a, Ctla8, Il17
Target Background	Interleukin-17 (IL-17), Mouse

Protein Information

Name	Il17a
Synonyms	Ctla8, Il17
Function	Effector cytokine of innate and adaptive immune system involved in antimicrobial host defense and maintenance of tissue integrity (PubMed: <u>18025225</u> , PubMed: <u>19144317</u> , PubMed: <u>26431948</u>). Signals via IL17RA-IL17RC heterodimeric receptor complex, triggering homotypic interaction of IL17RA and IL17RC chains with TRAF3IP2 adapter. 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: <u>16200068</u> , PubMed: <u>17911633</u> , PubMed: <u>19144317</u> , PubMed: <u>26431948</u>). Plays an important role in connecting T cell-mediated adaptive immunity and acute inflammatory response to destroy extracellular bacteria and fungi. As a signature effector cytokine of T-helper 17 cells (Th17), primarily induces neutrophil activation and recruitment at infection and inflammatory sites (PubMed: <u>18025225</u>). In airway epithelium, mediates neutrophil chemotaxis via induction of CXCL1 and CXCL5 chemokines (PubMed: <u>18025225</u> , PubMed: <u>27923703</u>). In secondary lymphoid organs, contributes to germinal center formation by regulating the chemotactic response of B cells to CXCL12 and CXCL13, enhancing retention of B cells within the germinal centers, B cell somatic hypermutation rate and selection toward plasma cells (PubMed: <u>18157131</u>). Effector cytokine of a subset of gamma-delta T cells that

functions as part of an inflammatory circuit downstream IL1B, TLR2 and IL23A-IL12B to promote neutrophil recruitment for efficient bacterial clearance (PubMed:17372004, PubMed:20364087, PubMed:28709803). Effector cytokine of innate immune cells including invariant natural killer cell (iNKT) and group 3 innate lymphoid cells that mediate initial neutrophilic inflammation (PubMed:17470641, PubMed:23255360). Involved in the maintenance of the integrity of epithelial barriers during homeostasis and pathogen infection. Upon acute injury, has a direct role in epithelial barrier formation by regulating OCLN localization and tight junction biogenesis (PubMed:26431948). As part of the mucosal immune response induced by commensal bacteria, enhances host's ability to resist pathogenic bacterial and fungal infections by promoting neutrophil recruitment and antimicrobial peptides release (PubMed:<u>28709803</u>). In synergy with IL17F, mediates the production of antimicrobial beta-defensins DEFB1, DEFB103A, and DEFB104A by mucosal epithelial cells, limiting the entry of microbes through the epithelial barriers (PubMed:<u>19144317</u>). Involved in antiviral host defense through various mechanisms (PubMed:21946434, PubMed:26735852, PubMed:<u>27795421</u>). Enhances immunity against West Nile virus by promoting T cell cytotoxicity (PubMed:<u>27795421</u>). May play a beneficial role in influenza A virus (H5N1) infection by enhancing B cell recruitment and immune response in the lung (PubMed:<u>21946434</u>). Contributes to influenza A virus (H1N1) clearance by driving the differentiation of B-1a B cells, providing for production of virus-specific IgM antibodies at first line of host defense (PubMed:26735852).

Cellular Location Secreted.

Tissue LocationExpressed by Th17 cell lineage (at protein level). The expression pattern
reflects the differentiation state, with IL17A-IL17F heterodimers produced at
higher levels than IL17A-IL17A and IL17F-IL17F dimers in fully differentiated
Th17 cells (PubMed:16990136, PubMed:18025225). Expressed in innate
lymphoid cells (at protein level) (PubMed:23255360, PubMed:28709803).
Expressed in gamma-delta T cell subsets (at protein level) (PubMed:17372004,
PubMed:20364087, PubMed:26431948, PubMed:28709803). Expressed in
iNKT cells (at protein level) (PubMed:17470641).

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