

Recombinant Human IL-17A (carrier-free)

Catalog# / Size	570502 / 10 µg 570504 / 25 µg 570506 / 100 µg
Regulatory Status	RUO
Other Names	Interleukin-17A, Cytotoxic T-lymphocyte-associated antigen 8, cytotoxic T-lymphocyte-associated serine esterase 8, CTLA-8, IL-17
Description	IL-17A was initially identified from a subtracted cDNA library between closely related murine lymphoid cells and called CTLA-8, and share 58% homology with an open reading frame of the T-lymphotropic Herpesvirus Samirii virus (viral IL-17) (5). IL-17A belongs to a family of cytokines, which has five members; designated IL-17A-F. IL-17 is expressed by a unique lineage of CD4 T cells (Th17) that develop in response to IL-23, in particular under conditions in which Th1 and Th2 development are suppressed. IL-17A shares the greatest homology (55%) with IL-17F. Both IL-17A and IL-17F are produced by Th17 cells. IL-17A and IL-17F can either exist as IL-17A homodimers and IL-17F homodimers or as IL-17A-IL-17F heterodimers (6). IL-17 is a key mediator of autoimmune disorders, including rheumatoid arthritis, psoriasis, inflammatory bowel disease, and asthma, and plays a role in host defense (7).

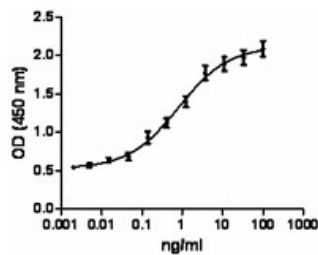
Product Details

Source	Human IL-17A, amino acids Ile20-Ala155 (Accession # NM_002190) was expressed in <i>E. coli</i> .
Molecular Mass	The 137 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 15,666 Da. This protein exists as a disulfide-linked homodimer. The DTT-reduced protein migrates at approximately 16kDa by SDS-PAGE. The non-reduced protein migrates as a homodimer, at approximately 28kDa by SDS-PAGE.
Purity	Purity is >98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10mM NaH ₂ PO ₄ , 300mM NaCl, pH 7.2.
Endotoxin Level	Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	Human IL-17A induces IL-6 production in human neonate dermal fibroblasts in a dose-dependent manner. The ED ₅₀ for this effect is 0.06 – 0.36 ng/mL.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .
Product Citations	<ol style="list-style-type: none">Luo J, <i>et al.</i> 2019. Mediators Inflamm. 2019:9050965. PubMedCrawford MP, <i>et al.</i> 2020. Proc Natl Acad Sci U S A. 117:19408. PubMedJaeger N, <i>et al.</i> 2020. Cell Rep. 33:108331. PubMed

Antigen Details

Structure	Cytokine
Distribution	IL-17A is largely produced by activated memory T lymphocytes, CD4+ T helper cells (Th17), neutrophils, CD8(+), NK, and gamma-delta T cells (3).
Function	IL-17A is a potent regulator of granulopoiesis and neutrophil recruitment under normal and inflammatory conditions. Organ overexpression of IL-17A increases circulating neutrophil numbers and recruitment into the organs by induction of CXCL2, IL-1 β , and G-CSF. IL-17A induces CXCL1, CXCL2, CXCL5, and CXCL8 in human epithelial cells. IL-17A also cooperates with TLR ligands, IL-1 beta, and TNF alpha to enhance inflammatory reactions and stimulate production of beta-defensins and other antimicrobial peptides (1, 2).
Interaction	IL-17AR is expressed in epithelial cells, fibroblasts, B and T lymphocytes, myelomonocytic cells, marrow stromal cells, synovial endothelial cells and chondrocytes from arthritic patients express IL-17R (4).
Ligand/Receptor	IL-17A signals through a heteromeric receptor composed of IL-17RA and IL-17RC.
Biology Area	Cell Biology, Immunology, Neuroinflammation, Neuroscience
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Yu J, <i>et al. Front Biosci</i> 13:170-177 2008.2. Toy D, <i>et al. J. Immunol.</i> 177:36-39 2006.3. Bengeat FS, <i>et al. Transplant Rev</i> 23:11-18 2009.4. Honorati MC, <i>et al. Rheumatology</i> 40:522-527 2001.5. Rouvier E, <i>et al. J. Immunol.</i> 150:5445-5456 1993.6. Liang SC, <i>et al. J. Immunol.</i> 179:7791-7799 2007.7. Ouyang W, <i>et al. Immunity</i> 28:454-467 2008.
Gene ID	3605

Product Data



Induction of IL-6 in human dermal fibroblast by IL-17A.

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