

Recombinant Mouse IL-17A (carrier-free)

Catalog# / Size	576002 / 10 µg 576004 / 25 µg 576006 / 100 µg 576008 / 500 µg
Regulatory Status	RUO
Other Names	Cytotoxic T-lymphocyte-associated antigen 8, cytotoxic T-lymphocyte-associated serine esterase 8, Ctla8, Ctla-8, Il17a, Il17
Description	IL-17A was initially identified from a subtracted cDNA library between closely related murine lymphoid cells and called CTLA-8. IL-17A shares 58% homology with an open reading frame of the T-lymphotropic Herpes virus Samirii virus (viral IL-17). 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 cells. This lineage selectively produces proinflammatory cytokines including IL-17, IL-17F, IL-21, and IL-22. In the mouse, the differentiation of this new lineage is initiated by TGFbeta-1 and IL-6 or IL-21, which activates Stat3 and induces the expression of the transcription factor retinoic acid-related orphan receptors (RORγt and RORα). IL-23, which also activates Stat3, serves to maintain Th17 cells lineage.

Product Details

Source	Mouse IL-17A, amino acids Ala26-Ala158 (Accession # NM_010552) was expressed in <i>E. coli</i> .
Molecular Mass	The 133 amino acid recombinant protein has a predicted molecular mass of 14,978 Da. This protein exists as a disulfide-linked homodimer. The DTT-reduced protein migrates at approximately 15kDa 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 10 mM NaH ₂ PO ₄ , 0.15 M NaCl, pH 7.2.
Endotoxin Level	Endotoxin level is <0.1 EU/µg (<0.01 ng/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	The ED ₅₀ is 0.25 - 1 ng/ml, corresponding to a specific activity 1.0 - 4 x 10 ⁶ units/mg, as determined by a dose dependent stimulation of fetal mouse skin fibroblasts production of IL-6.
Application	Bioassay
Recommended Usage	Use when high specific biological activity is required.
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 .
Additional Product Notes	View more applications data for this product in our Scientific Poster Library .
Application References	1. Saha A., <i>et al.</i> 2012. <i>Hum. Mol. Genet.</i> PubMed

2. Cho KA, *et al.* 2012. *Int. Immunol.* 24:147. [PubMed](#)
3. Bian Z, *et al.* 2012. *J. Immunol.* 188:844. [PubMed](#)
4. Darling AR, *et al.* 2014. *Clin Immunol.* 150:153. [PubMed](#)

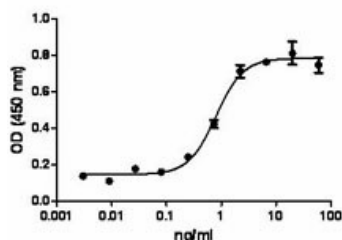
Product Citations

1. Xiao Y, *et al.* 2019. *Cell Mol Gastroenterol Hepatol.* 8:21. [PubMed](#)
2. Liao X, *et al.* 2022. *Front Immunol.* 12:768813. [PubMed](#)
3. Yamazaki S, *et al.* 2022. *Mucosal Immunol.* .: [PubMed](#)
4. Cho K, *et al.* 2012. *Int Immunol.* 24:147. [PubMed](#)
5. Darling A, *et al.* 2014. *Clin Immunol.* 150:153. [PubMed](#)
6. Chang Q, *et al.* 2020. *Scand J Immunol.* 92:e12877. [PubMed](#)
7. Tan X, *et al.* 2021. *Mol Microbiol.* 116:498. [PubMed](#)
8. Luo J, *et al.* 2019. *Mediators Inflamm.* 2019:9050965. [PubMed](#)
9. Saha A, *et al.* 2012. *Hum Mol Genet.* 21:425694444. [PubMed](#)
10. Luo X, *et al.* 2021. *Neuron.* 109(17):2691-2706.e5. [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. IL-17AR is expressed in epithelial cells, fibroblasts, B and T lymphocytes, myelomonocytic cells, and marrow stromal cells.
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. Th17 differentiation of human and murine naïve T cells is markedly suppressed in the presence of IFN α .
Bioactivity	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.</i> <i>Front Biosci</i> 13:170-177 2008. 2. Toy D, <i>et al.</i> <i>J. Immunol.</i> 177:36-39 2006. 3. Benghiat FS, <i>et al.</i> <i>Transplant Rev</i> 23:11-18 2009. 4. Honorati MC, <i>et al.</i> <i>Rheumatology</i> 40:522-527 2001. 5. Rouvier E, <i>et al.</i> <i>J. Immunol.</i> 150:5445-5456 1993. 6. Liang SC, <i>et al.</i> <i>J. Immunol.</i> 179:7791-7799 2007. 7. Ouyang W, <i>et al.</i> <i>Immunity</i> 28:454-467 2008.
Gene ID	16171

Product Data



Mouse IL-6 induced by mIL-17A in fetal mouse skin fibroblasts.

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