Cytokines

Human Recombinant IL-17A

Interleukin 17A

Catalog #	78032.1	25 µg
	78032	100 µg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

Interleukin 17A (IL-17A) is the founding member of the family of cytokines that includes IL-17B through IL-17F. It is a potent pro-inflammatory cytokine that plays a key role in defense against pathogens. IL-17A and IL-17F signal as homodimers or heterodimers through the same receptor, and activate NF-κB, MAPK, and C/EBP pathways (Gaffen). IL-17A is produced by Th17 cells, CD8+ T cells, γ/δ T cells, natural killer (NK) T cells, B cells, innate lymphoid cells, and mesenchymal stromal cells (MSCs) (Cua & Tato; Gaffen; Mojsilovic et al.). IL-17A mediates protection against extracellular pathogens, and together with IL-22 stimulates production of antimicrobial peptides. It induces granulopoiesis factors and neutrophil-specific chemokines. Together with tumor necrosis factor alpha (TNF-α), IL-17A induces a sustained neutrophil recruitment during inflammation (Cua & Tato). IL-17A receptor is expressed at particularly high levels on stromal cells, including MSCs. IL-17A increases the frequency and the average size of fibroblast colony-forming units (CFU-F), as well as the proliferation of marrow-derived MSCs. It enhances osteogenic differentiation, and inhibits adipocyte differentiation and chondrogenesis (Mojsilovic et al.).

Product Information

Alternative Names:	CTLA-8, IL-17, Interleukin-17, Interleukin-17A
Accession Number:	Q16552
Amino Acid Sequence:	MIVKAGITIP RNPGCPNSED KNFPRTVMVN LNIHNRNTNT NPKRSSDYYN RSTSPWNLHR NEDPERYPSV IWEAKCRHLG CINADGNVDY HMNSVPIQQE ILVLRREPPH CPNSFRLEKI LVSVGCTCVT PIVHHVA
Predicted Molecular Mass:	31.3 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized from a sterile-filtered solution containing 0.1% trifluoroacetic acid.
Source:	E. coli

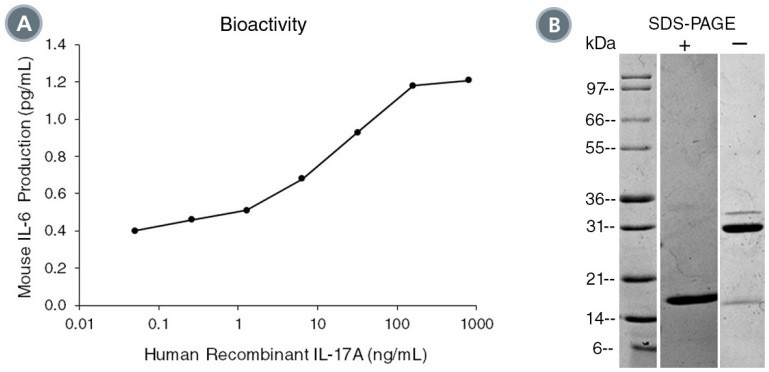
Specifications

Activity:	The specific activity is ≥ 1 x 10^5 units/mg (EC50 ≤ 10 ng/mL) as determined by the production of IL-6 by NIH 3T3 fibroblasts.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-17A was tested by its ability to produce IL-6 in NIH 3T3 cells. Production of mouse IL-6 was measured after 48 hours of culture. The EC50 is defined as the effective concentration of the growth factor at which IL-6 production is at 50% of maximum. The EC50 in the above example is 2.7 ng/mL.
(B) 1 µg of Human Recombinant IL-17A was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-17A is a homodimer of 15.7 kDa subunits with a predicted total molecular mass of 31.3 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Cua DJ & Tato CM. (2010) Innate IL-17-producing cells: the sentinels of the immune system. Nat Rev Immunol 10(7): 479–89.
Gaffen SL. (2009) Structure and signalling in the IL-17 receptor family. Nat Rev Immunol 9(8): 556–67.
Mojsilović S et al. (2015) Interleukin-17 and its implication in the regulation of differentiation and function of hematopoietic and mesenchymal stem cells. Mediators Inflamm 2015: 470458.