

# Cytokines

## Human Recombinant IL-5



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

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Catalog # 78048.1  
78048

10 µg  
100 µg

## Product Description

Interleukin 5 (IL-5) is a member of the short-chain 4- $\alpha$ -helical bundle subset of hematopoietic cytokines. It binds to a receptor consisting of IL-5Ra (specific for IL-5R) and common beta chain, which is shared with the receptor for IL-3 and granulocyte-macrophage colony-stimulating factor (GM-CSF) (Shearer). Upon binding to its receptor, IL-5 activates the JAK/STAT and MAPK pathways. IL-5 is produced by Th2 cells, eosinophils, and activated mast cells. It functions in the recruitment, activation, proliferation, and survival of eosinophils, thus playing an important role in allergic inflammation, asthma, and parasite immunity. Stimulation of eosinophils with IL-5 leads to their activation, upregulation of CD11b expression, and inhibition of apoptosis (Shearer).

## Product Information

**Alternative Names:** B cell differentiation factor II, BCDFII, EDF, Eosinophil differentiation factor, Interleukin-5, TFR  
**Accession Number:** P05113  
**Amino Acid Sequence:** MIPTEIPTSA LVKETLALLS THRTLLIANE TLRIPVPVHK NHQLCTEEIF QGIGTLESQT VQGGTVERLF  
KNLSLIKKYI DGQKKKCGEE RRRVNLQFLDY LQEFLGVMNT EWIIES  
**Predicted Molecular Mass:** 26.6 kDa  
**Species:** Human  
**Cross Reactivity:** Mouse, Monkey  
**Formulation:** Lyophilized from a sterile-filtered aqueous solution containing sodium glycinate, pH 8.5.  
**Source:** E. coli

## Specifications

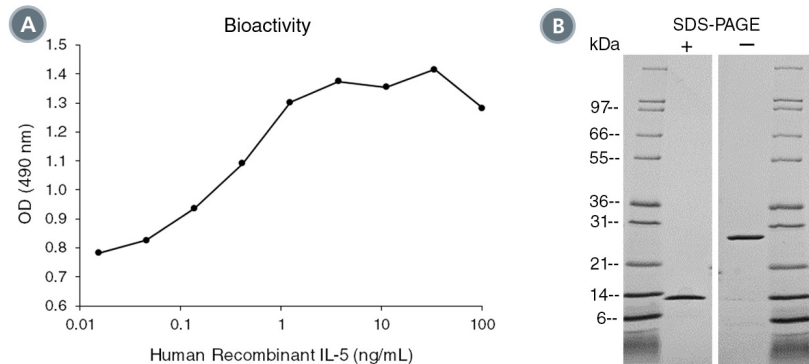
**Activity:** The specific activity is  $\geq 4 \times 10^6$  units/mg ( $EC_{50} \leq 0.25$  ng/mL) as determined by a cell proliferation assay using TF-1 cells.  
**Purity:**  $\geq 95\%$   
**Endotoxin Level:** Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is  $\leq 1$  EU/ $\mu$ g protein.

## Preparation and Storage

**Storage:** Store at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$ .  
**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  $2 - 8^{\circ}\text{C}$  for more than 1 month or at  $-80^{\circ}\text{C}$  for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



(A) The biological activity of Human Recombinant IL-5 was tested by its ability to promote the proliferation of TF-1 cells. Cell proliferation was measured after 62 hours of culture using a fluorometric assay method. The EC<sub>50</sub> is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC<sub>50</sub> in the above example is 0.13 - 0.2 ng/mL.

(B) 1 µg of Human Recombinant IL-5 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-5 is a homodimer of 13.3 kDa subunits and has a predicted total molecular mass of 26.6 kDa.

## Related Products

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## References

Shearer W. (2003) Biology of common  $\beta$  receptor–signaling cytokines IL-3, IL-5, and GM-CSF. *J Allergy Clin Immunol* 112(4): 653–65.

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