TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT WWW.STEMCELL.COM

# Human Recombinant IL-13

Interleukin 13

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|---|---|
| **Catalog** #78029.1 | 10 µg |
| **Catalog** #78029 | 100 µg |
| **Catalog** #78029.2 | 500 µg |
| **Catalog** #78029.3 | 1000 µg |

## Product Description

Interleukin 13 (IL-13) is a cytokine important in type 2 immune responses and is expressed by T helper type 2 (Th2) cells and group 2 innate lymphoid cells (ILC2s; Pulendran & Artis). IL-13 binds a receptor composed of IL-4Ra and IL-13Ra1 or IL-13Ra2 (Wynn 2003). IL-13 receptor is expressed on B cells and promotes B cell proliferation, induces class switching to IgG4 and IgE, and functions in the recruitment and activation of IgE-producing B cells (Hershey). The receptor is also expressed on basophils, eosinophils, mast cells, endothelial cells, fibroblasts, monocytes, macrophages, respiratory epithelial cells, and smooth muscle cells (Hershey). Signaling through the IL-13 receptor activates the JAK/STAT and IRS-1/IRS-2 pathways. In vivo, IL-13 has a role in resistance to extracellular helminth parasites by regulating gastrointestinal parasite expulsion, as well as in airway hyperresponsiveness, allergic inflammation, tissue remodeling, tumor cell growth, and fibrosis (Wynn 2015). Secreted IL-13 is a protein consisting of 112 amino acids with a molecular mass of 10 kDa. Human IL-13 is not species-specific but has greater activity on human cells compared to mouse cells (Hershey). This product is a variant of wild-type IL-13.

## Product Information

**Alternative Names**: Interleukin13, NC30

**Accession Number**: P35225

**Amino Acid Sequence**: MSPGPVPPST ALRELIEELV NITQNQKAPL CNGSMVWSIN LTAGMYCAAL ESLINVSGCS AIEKTQRMLS GFCPHKVSAG QFSSLHVRDT KIEVAQFVKD LLHLKKLFR EGQFN

**Predicted Molecular Mass**: 12.6 kDa

**Species**: Human

**Product Formulation**: Lyophilized from a sterile-filtered solution containing sodium citrate, pH 3.

**Source**: E. coli

**Purity**: ≥ 95%

## Specifications

**Activity**: The specific activity is ≥ 2 x 10^5 units/mg (EC50 ≤ 5 ng/mL) as determined by a cell proliferation assay using TF-1 cells.

**Endotoxin Level**: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

## Preparation and Storage

**Stability and Storage**: Store at -20 to -80°C. Stable as supplied for 12 months from date of receipt.

**Preparation**: Centrifuge vial before opening. Reconstitute the product in 10 mM hydrochloric acid 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

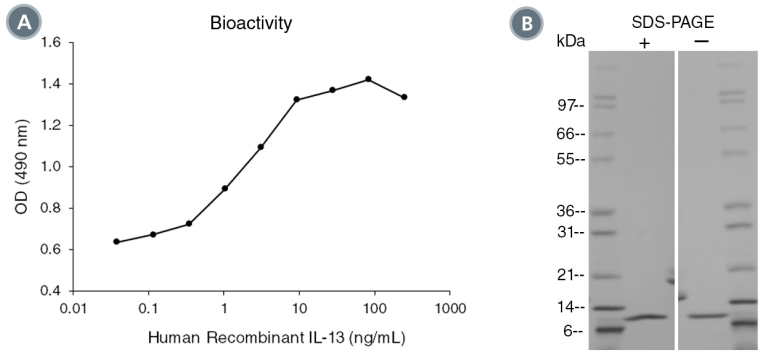


**Figure 1. Biological Activity and Molecular Mass of Human Recombinant IL-13**

(A) The biological activity of Human Recombinant IL-13 was tested by its ability to promote the proliferation of TF-1 cells. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 3 - 4 ng/mL.

(B) 1 µg of Human Recombinant IL-13 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-13 has a predicted molecular mass of 12.6 kDa.

# Related Products

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

# References

Hershey GKK. (2003) IL-13 receptors and signaling pathways: An evolving web. J Allergy Clin Immunol 111(4): 677–90.

Pulendran B & Artis D. (2012) New paradigms in type 2 immunity. Science 337(6093): 431–5.

Wynn TA. (2003) IL-13 effector functions. Annu Rev Immunol 21: 425–56.

Wynn TA. (2015) Type 2 cytokines: mechanisms and therapeutic strategies. Nat Rev Immunol 15(5): 271–82.