

# Recombinant human IL-4

*E. coli* expressed human interleukin-4 with HSA

Cat. code: rcyec-hil4; rcyec-hil4-5

<https://www.invivogen.com/human-il4>

For research use only

Version 25C25-NJ

## PRODUCT INFORMATION

### Contents

Recombinant human IL-4 is provided as a lyophilized powder and is available in two quantities:

- rcyec-hil4: 10 µg
- rcyec-hil4-5: 50 µg (5 x 10 µg)

Note: This product is sterile filtered prior to lyophilization.

- 1.5 ml endotoxin-free water for rcyec-hil4 and rcyec-hil4-5

### Storage and stability

- Recombinant human IL-4 is shipped at room temperature. Upon receipt, it should be immediately stored at -20 °C.
- Upon resuspension, prepare aliquots of recombinant human IL-4 and store at 4 °C for 1 week or at -20 °C to -80 °C for 12 months.

Note: Avoid repeated freeze-thaw cycles.

### Quality control

- Purity: ≥ 98% (SDS-PAGE)
- Endotoxin level: ≤ 0.1 EU/µg (LAL assay)
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- The biological activity of IL-4 is confirmed using HEK-Blue™ IL-4/IL-13 cells.

### Characteristics

- Alternate name: B-cell stimulatory factor 1, Lymphocyte stimulatory factor 1
- Source: Bacterial; *Escherichia coli* (*E. coli*)
- Carrier: HSA (human serum albumin)
- Tag: Tag-free
- Accession number: P05112
- Molecular mass: ~ 15 kDa (SDS-PAGE)
- Formulation: Recombinant human IL-4 was lyophilized from a 0.2 µm filtered phosphate buffer saline (pH 7.4), 5% saccharose, 2% HSA.
- Solubility: 100 µg/ml in water

## APPLICATIONS

- Cellular assays

## PRODUCT DESCRIPTION

Interleukin 4 (IL-4) plays an important role in regulating inflammation and immune responses. It induces the differentiation of naïve helper T cells to Th2 cells. This cytokine binds the IL-4 receptor that also binds another cytokine interleukin 13 (IL-13), which may explain the overlapping functions of IL-4 and IL-13<sup>1,2</sup>.

Recombinant human IL-4 is a high-quality and biologically active cytokine, validated using proprietary IL-4/IL-13 reporter cells. This member of the IL-2/γc superfamily is produced in *E. coli* and thoroughly purified to remove endotoxins.

Recombinant human IL-4 can be used together with HEK-Blue™ IL-4/IL-13 cells for the screening of inhibitory molecules, such as Dupilumab, a therapeutic monoclonal antibody targeting the IL-4Rα subunit of the IL-4 receptor.

1. Kasaian MT. *et al.*, 2013. An IL-4/IL-13 dual antagonist reduces lung inflammation, airway hyperresponsiveness, and IgE production in mice. *Am J Respir Cell Mol Biol.* 49(1):37-46. 2. David M. *et al.*, 2003. Functional characterization of IL-13 receptor α2 gene promoter: a critical role of the transcription factor STAT6 for regulated expression. *Oncogene* 22, 3386-3394.

## METHODS

### Preparation of stock solution (100 µg/ml):

1. Add 100 µl of endotoxin-free water (provided) to 10 µg of recombinant human IL-4.
2. Mix gently by pipetting until completely resuspended.
3. Use immediately or prepare aliquots and store at -20 °C or -80 °C. Avoid freeze-thaw cycles.
4. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

## RELATED PRODUCTS

Product	Cat. Code
HEK-Blue™ IL-4/IL-13 Cells	hkb-il413
Anti-hIL-4R-hIgG4 (S228P)	hil4r-mab14
Recombinant human IL-13	rcyc-hil13

## TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Asia: +852 3622-3480

E-mail: [info@invivogen.com](mailto:info@invivogen.com)