

### General Information

Synonyms	Human IL4; hIL-4, recombinant IL4, interleukin 4, BCGF1 Protein
Accession #	P05112
Source	Human embryonic kidney cell, HEK293-derived human IL4 protein
	His25-Ser153
Predicted Molecular weight	15 kDa

### Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer to a concentration of 0.2 mg/mL. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
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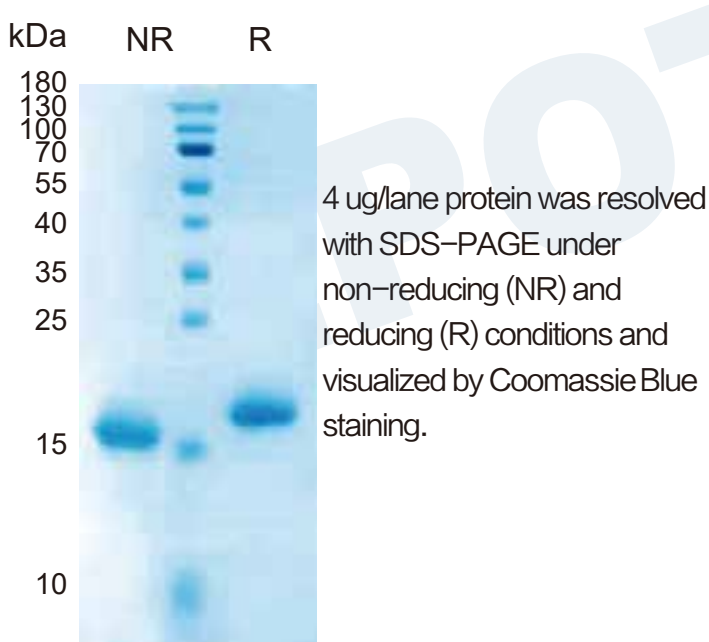
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
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Shipping	Shipping with dry ice.
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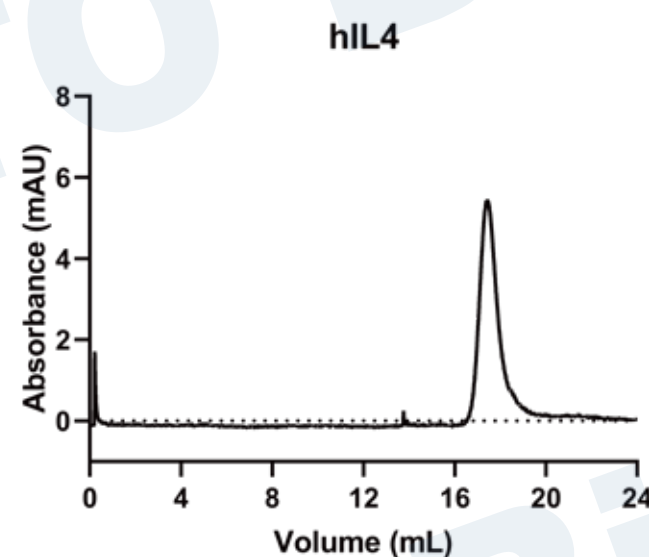
### Quality

Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The EC50 for this effect is 0.02-0.1 ng/mL.

### SDS-PAGE

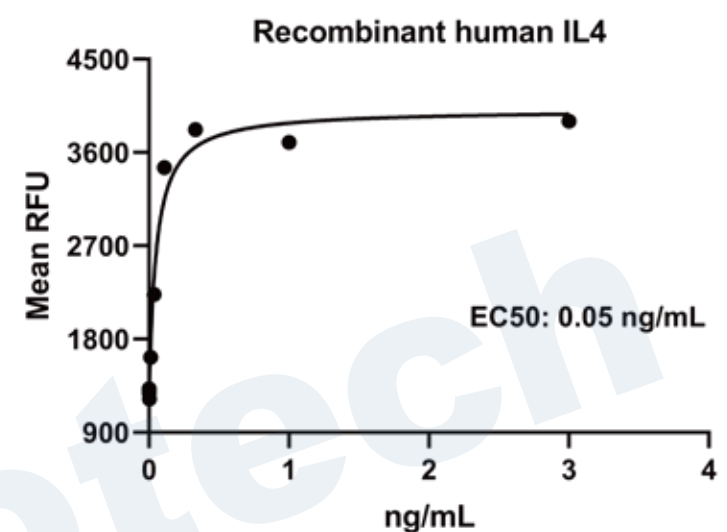


### Gel filtration



Size-exclusion chromatography of recombinant human IL4 protein (280 nm absorbance)

### Bioactivity



Recombinant human IL4 (Catalog # HF-1004) stimulates cell proliferation of the TF-1 human erythroleukemic cells.

### Background

**Interleukin-4 (IL-4)**, also known as B cell-stimulatory factor-1, is a secreted protein that belongs to the IL-4 / IL-13 family (1-3). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four  $\alpha$ -helix structure (4). Mature human IL-4 shares 55%, 39% and 43% aa sequence identity with bovine, mouse, and rat IL-4, respectively. Human, mouse, and rat IL-4 are species-specific in their activities (5-7). IL-4 exerts its effect through two receptor complexes (8, 9). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 R $\alpha$  and the common  $\gamma$  chain (a shared subunit of the receptors for IL-2, -7, -9, -15, and -21). The type II receptor on nonhematopoietic cells consists of IL-4 R $\alpha$  and IL-13 R $\alpha$  1. The type II receptor also transduces IL-13 mediated signals. IL-4 is primarily expressed by Th2-biased CD4+ T cells, mast cells, basophils, and eosinophils (1, 2). It promotes cell proliferation, survival, and immunoglobulin class switch to IgG4 and IgE in human B cells, acquisition of the Th2 phenotype by naive CD4+ T cells, priming and chemotaxis of mast cells, eosinophils, and basophils, and the proliferation and activation of epithelial cells (10-13).

### Reference

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