

## Recombinant human IL-4 protein (Qk092)



**Type:** Stem cells

**Available for purchase:** Unit Size (µg): 25, 50, 100, 500, 1000

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### Product Information

Interleukin-4 (IL-4) is a pleiotropic, immune-modulatory cytokine that is secreted primarily by mast cells, [T-cells](#), eosinophils, and basophils. IL-4 plays a crucial role in [hematopoiesis](#), the regulation of antibody production, the stimulation of activated B cell and T cell proliferation, and the differentiation of B cells into plasma cells.

Human IL-4 has a molecular weight of 15.1 kDa. This protein is [animal origin-free](#), carrier-free and tag-free to ensure its purity with exceptional lot-to-lot consistency. Qk092 is suitable for the culture of reproducible and high-quality stem cells and other relevant cells.

**This protein is also available as GMP compliant [Cell Therapy Grade](#), to enquire email [support@qkine.com](mailto:support@qkine.com).**

### Alternative protein names

Interleukin-4, B-cell stimulatory factor 1 (BSF-1), Binetrakin, Lymphocyte stimulatory factor 1, Pitrakinra, IL4, IL 4, Qk92

### Molecular weight

15.1 kDa (monomer)

### Protein Uniprot number

High purity human IL-4 protein (Uniprot number: P05112)

### Species reactivity

- human
- species similarity:
- mouse - 39%
- rat - 38%
- bovine - 55%
- porcine - 59%

### **Product Information**

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

### **Reconstitution instructions**

- Resuspend in sterile-filtered water at >50 µg/ml

### **Featured applications**

- Stimulation of activated T cell proliferation
- Stimulation of activated B cell proliferation
- Differentiation of B cells into plasma cells
- Lymphoid differentiation

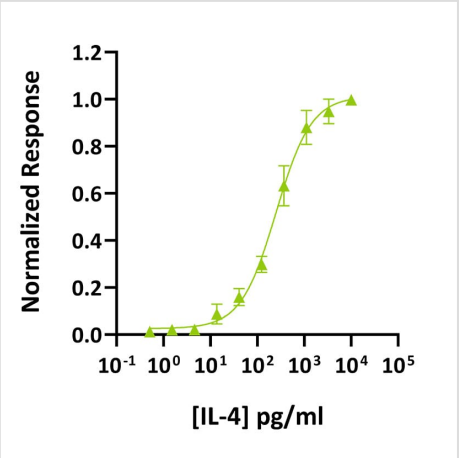
### **Further quality assays**

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

# Scientific Information

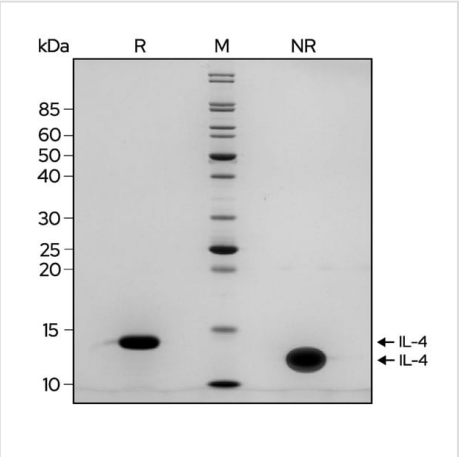
## Bioactivity

IL-4 activity was determined using proliferation of TF-1 human myeloid leukemia cells. EC50 = 235 pg/mL (16 pM). Cells were treated in triplicate with a serial dilution of IL-4 for 72 hours. Cell viability was measured using the CellTiter-Glo (Promega) luminescence assay. Data from Qk092 lot #204598.



## Purity

Recombinant IL-4 migrates as a major band at approximately 14 kDa in non-reducing (NR) and at approximately 12.5 kDa in reduced (R) conditions. No contaminating protein bands are present. The purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced conditions and stained with Coomassie Brilliant Blue R250. Data from Qk092 batch #204598.



Original product page: <https://qkine.com/product/recombinant-human-il-4-protein-qk092/>

PDF generated: 11 September 2026

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