

# Recombinant Human IL-3 Protein

Catalog No.: RP01903 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	3562	P08700

### Tags

NO-tag

### Synonyms

Hematopoietic growth factor; IL3; IL-3; IL-3MGC79398; interleukin 3 (colony-stimulating factor; multiple); interleukin-3; Mast cell growth factor; mast-cell growth factor; MCGF; MCGFMGC79399; MULTI-CSF; multilineage-colony-stimulating factor; Multipotential colony-stimulating factor; P-cell stimulating factor; P-cell-stimulating factor

## Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

### Endotoxin

&lt;0.01EU/μg of the protein by LAL method.

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Background

Interleukin 3 is a pleiotropic factor produced primarily by activated T cells that can stimulate the proliferation and differentiation of pluripotent hematopoietic stem cells as well as various lineage committed progenitors. In addition, IL-3 also affects the functional activity of mature mast cells, basophils, eosinophils and macrophages. Because of its multiple functions and targets, it was originally studied under different names, including mast cell growth factor, P-cell stimulating factor, burst promoting activity, multi-colony stimulating factor, thy-1 inducing factor and WEHI-3 growth factor. In addition to activated T cells, other cell types such as human thymic epithelial cells, activated murine mast cells, murine keratinocytes and neurons/astrocytes can also produce IL-3. At the amino acid sequence level, mature human and murine IL-3 share only 29% sequence identity. Consistent with this lack of homology, IL-3 activity is highly species-specific and human IL-3 does not show activity on murine cells. IL-3 exerts its biological activities through binding to specific cell surface receptors. The high affinity receptor responsible for IL-3 signaling is composed of at least two subunits, an IL-3 specific alpha chain which binds IL-3 with low affinity and a common beta chain that is shared by the IL-5 and GM-CSF high-affinity receptors. Although the beta chain itself does not bind IL-3, it confers high-affinity IL-3 binding in the presence of the alpha chain. Receptors for IL-3 are present on bone marrow progenitors, macrophages, mast cells, eosinophils, megakaryocytes, basophils and various myeloid leukemic cells.

## Basic Information

### Description

Recombinant Human IL-3 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala20-Phe152) of Human IL-3 (Accession #NP\_000579.2) fused with no tag.

### Bio-Activity

### Storage

Store the lyophilized protein at -20°C to -80°C for long term.

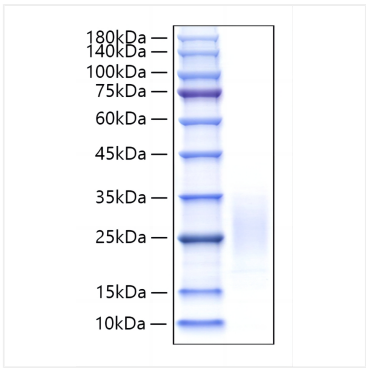
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

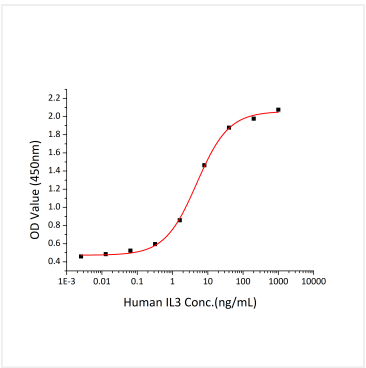
## Contact

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## Validation Data



Recombinant Human IL-3 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 20-35 KD.



Recombinant Human IL-3 stimulates cell proliferation assay using TF-1 Human erythroleukemic cells. The ED<sub>50</sub> for this effect is 2.425-9.7 ng/mL, corresponding to a specific activity of 1.03×10<sup>5</sup>~4.12×10<sup>5</sup> units/mg.