Human recombinant Interleukin-3 expressed in *Nicotiana benthamiana*

**Mol. formula:** C718H1132N210O207S5  
**Extinction coeff:** Abs (280 nm) 0.1% (=1g/l) =0.780  
**Mol. weight:** rhuman Interleukin-3 is a glycosylated polypeptide chain containing 133 amino acids (20 – 152 of P08700 IL3_HUMAN) and a His-tag at the N-terminal end. It has a predicted molecular mass of 16.2 KDa, however as result of glycosylation, the recombinant protein could migrate with an apparent molecular mass of 18-22 kDa in SDS PAGE.

**p.I:** 7.34  
**Purity:** >97% by SDS-PAGE gel  
**Animal Free product**

**Endotoxin Level**: <0.04 EU/µg protein (LAL method)  
**Alternative Names:** MCGF/DMULTI-CSF  
**UniProtKB:** P08700

**Sequence**

```
HHHHHHHAPMTQTTSLKTSWVNCSNMIIDEIITHLKQPLLDFNLNEDQDILMENLRRPNLEAFRN
AVKSLQNSASIESILKNLLLPLATAAPRHPHIKGDGDWNEFRRKLFTYLKTLENAQAQOTTLSAIF
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**Description**

IL-3 is a potent growth factor involved in a variety of cell activities such as cell growth, differentiation and apoptosis. It takes part in several biological responses such as proliferation, and differentiation of a broad range of hematopoietic progenitor cells into erythrocytes, granulocytes, monocytes, megakaryocytic and mast cells. IL-3 also induces the production of several enzymes involved in cellular metabolism, differentiation, and DNA/RNA metabolism. IL-3 is produced by activated T-lymphocytes, keratinocytes, NK-cells, mast cells, endothelial cells and monocytes. The biological activity of IL-3 is mediated through specific cell surface receptor that is composed of alpha and beta subunits. Alpha subunit is responsible for the binding and beta subunit transmits signals across the plasma membrane; IL-3 is known to activate three signaling pathways: JAK/STAT, RAS/RAF/MAP kinase, and the PI-3kinase/PKB pathways. IL-3 is also implicated in the pathogenesis of several diseases such as asthma, atherosclerosis and multiple sclerosis. Recombinant protein has been widely used in clinical practice, in the treatment of leukemia and as therapy for patients with bone marrow deficiency function.
Recombinant Human Interleukin-3 Active

Product Information Sheet
# PR-RP0042

Source

Human recombinant protein expressed in *Nicotiana benthamiana*. It is produced by transient expression in non-transgenic plants and is purified by sequential chromatography (FPLC). This product contains no animal-derived components or impurities. Animal Free product.

Formulation

Recombinant human IL-3 is lyophilized from PBS 1X buffer pH 7.4.

Reconstitution Recommendation

Lyophilized protein should be reconstituted in water following instructions of batch Quality Control sheet. Optimal concentration should be determined for specific application and cell lines.

Applications

Cell culture, Western Blot.

For R+D purposes only. Purchaser must determine the suitability of the product for their particular use. Upon this protein has not been tested in a particular technique this not necessarily excludes its use in such procedures.

Purity Confirmation

The protein was resolved by SDS polyacrylamide gel electrophoresis and the gel was stained with coomassie blue.

![Figure 1. SDS-PAGE analysis of recombinant IL-3. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue. Lane MWM: Molecular weight marker (kDa); Lane-1 contains 0.15 ug and lane-2 contains 0.3 ug of rhuman IL-3.](image)

Serological Identification

The protein was electrophoresed under reducing condition on a 15% SDS-polyacrylamide gel, transferred by electroblotting to a NC membrane and visualized by immune-detection with specific IL-3 antibody.
**Figure 2.** Analysis of rhuman IL-3 with specific antibody by Western Blot: Lane MWM: Molecular weight marker (kDa); Lane-1 contains 0.15 ug and lane-2 contains 0.3 ug of rhuman IL-3.

**Biological Activity**
The activity is determined by the dose-dependent stimulation of TF-1 cells. ED50 of MoBiTec’s rHuman IL-3 is typically less than 1 ng/ml.

**References**
Order Information, Shipping and Storage

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<td>PR-RP0042-100</td>
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shipped on blue ice; store at -20 °C

Storage & Stability
This lyophilized preparation is stable at 2 - 8 °C for short term, long storage it should be kept at -20 °C. Reconstituted protein should be stored in working aliquots at -20 °C. It is recommended to add a carrier protein (0.1% HSA or BSA). Repeated freezing and thawing is not recommended.

We recommend for optimal usage follow instructions of batch Quality Control sheet
For R+D purposes only. Purchaser must determine the suitability of the product(s) for their particular use.

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