

## IL-3 Protein, Human (His-Avi)

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|-------------------|---|
| Cat. No.:         | HY-P78465   |
| Synonyms:         | IL3; IL-3; IL-3MGC79398; interleukin-3; MULTI-CSF; MCGF |
| Species:          | Human   |
| Source:           | E. coli   |
| Accession:        | P08700 (A20-F152)                                       |
| Gene ID:          | 3562  |
| Molecular Weight: | Approximately 16.9 kDa                                  |

### PROPERTIES

|                     |  |
|---------------------|--|
| Biological Activity | Immobilized Human IL-3 His at 5 µg/mL (100 µL/Well) on the plate. Dose response curve for Human IL-3 R alpha hFc with the EC <sub>50</sub> < 0.61 µg/mL determined by ELISA.                               |
| Appearance          | Lyophilized powder.  |
| Formulation         | Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.   |
| Endotoxin Level     | <1 EU/µg, determined by LAL method.  |
| Reconstitution      | It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.  |
| Storage & Stability | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| Shipping            | Room temperature in continental US; may vary elsewhere.  |

### DESCRIPTION

#### Background

The cytokine IL-3, predominantly secreted by activated T-lymphocytes, mast cells, and osteoblastic cells, plays a crucial role in controlling the production and differentiation of hematopoietic progenitor cells into lineage-restricted cells. Additionally, IL-3 stimulates mature basophils, eosinophils, and monocytes, promoting their functional activation. Beyond its hematopoietic functions, IL-3 contributes to neural cell proliferation and survival. Moreover, it participates in bone homeostasis by inhibiting osteoclast differentiation through the prevention of NF-kappa-B nuclear translocation and activation. Mechanistically, IL-3 exerts its biological effects through a receptor composed of the IL3RA subunit and the signal transducing subunit IL3RB. Stimulation of this receptor leads to the rapid activation of JAK2 kinase activity, initiating a STAT5-mediated transcriptional program. Alternatively, IL-3 contributes to cell survival under oxidative stress in non-hematopoietic systems by activating pathways mediated by PI3K/AKT and ERK. The cytokine also interacts with IL3RA to modulate its diverse physiological effects.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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