

## Animal-Free IL-3 Protein, Mouse (His)

<b>Cat. No.:</b>	HY-P700205AF
<b>Synonyms:</b>	rMuIL-3; Hematopoietic growth factor; Mast cell growth factor; MCGF; Multipotential colony-stimulating factor; P-cell-stimulating factor
<b>Species:</b>	Mouse
<b>Source:</b>	E. coli
<b>Accession:</b>	P01586 (D33-C166)
<b>Gene ID:</b>	16187
<b>Molecular Weight:</b>	Approximately 16.04 kDa

### PROPERTIES

<b>AA Sequence</b>	M D T H R L T R T L    N C S S I V K E I I    G K L P E P E L K T    D D E G P S L R N K S F R R V N L S K F    V E S Q G E V D P E    D R Y V I K S N L Q    K L N C C L P T S A N D S A L P G V F I    R D L D D F R K K L    R F Y M V H L N D L    E T V L T S R P P Q P A S G S V S P N R    G T V E C
<b>Biological Activity</b>	Measure by its ability to induce NFS-60 cells proliferation. The ED <sub>50</sub> for this effect is <85 pg/mL. The specific activity of recombinant mouse IL-3 is approximately >1x10 <sup>7</sup> IU/mg.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a solution containing 1X PBS, pH 7.4, trehalose.
<b>Endotoxin Level</b>	<0.1 EU per 1 µg of the protein by the LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years from date of receipt. 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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	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. Moreover, 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 and participates in bone homeostasis by inhibiting osteoclast differentiation through the prevention of NF-kappa-B nuclear translocation and activation.
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Mechanistically, IL-3 exerts its biological effects through a receptor composed of the IL3RA subunit and a signal transducing subunit IL3RB, leading to the rapid activation of JAK2 kinase activity and subsequent STAT5-mediated transcriptional programming. Additionally, IL-3, as a monomer, contributes to cell survival under oxidative stress in non-hematopoietic systems by activating pathways mediated by PI3K/AKT and ERK.

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

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