

IL-3 Protein, Human (His)

Cat. No.:	HY-P70576
Synonyms:	Interleukin-3; IL-3; Hematopoietic Growth Factor; Mast Cell Growth Factor; MCGF; Multipotential Colony-Stimulating Factor; P-Cell-Stimulating Factor; IL3
Species:	Human
Source:	E. coli
Accession:	P08700 (A20-F152)
Gene ID:	3562
Molecular Weight:	Approximately 13-17 kDa

PROPERTIES

AA Sequence	<p>A P M T Q T T P L K T S W V N C S N M I D E I I T H L K Q P P L P L L D F N N L</p> <p>N G E D Q D I L M E N N L R R P N L E A F N R A V K S L Q N A S A I E S I L K N</p> <p>L L P C L P L A T A A P T R H P I H I K D G D W N E F R R K L T F Y L K T L E N</p> <p>A Q A Q Q T T L S L A I F</p>
Biological Activity	<p>1.The cell proliferation assay using TF-1 human erythroleukemic cells has an ED₅₀ value of 0.05-0.3 ng/mL.</p> <p>2.Loaded Human IL-3RA-Fc on Protein A Biosensor, can bind Human IL-3 with an affinity constant of 3.89 μM as determined in BLI assay.</p> <p>3.Loaded Human IL-3RA-Fc-Avi on Protein A Biosensor, can bind Human IL-3 with an affinity constant of 3.74 μM as determined in BLI assay.</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4 or 20 mMPB, 5%Sucrose, 0.05%Tween80, pH 6.5.
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 ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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,
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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.

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

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