

Recombinant Human IL-3 (Animal-Free)

Catalog# / Size	714702 / 10 µg
Regulatory Status	RUO
Other Names	Interleukin-3, Burst promoting activity, Eosinophil colony stimulating factor (Eo-CSF), Hematopoietic cell growth factor (HCGF), Mast (MGF/MCGF), Multi-colony stimulating (Multi-CSF), P cell stimulating activity (PCSA), Thy1 inducing factor
Description	Interleukin-3 is a hematopoietic growth factor involved in the survival, proliferation, and differentiation of multipotent hemopoietic cells. IL-3 is the most potent growth factor for basophils, followed by granulocyte-macrophage colony-stimulating factor and IL-5. These cytokines also act on mature basophils through specific receptors, thereby mediating adhesion, migration, and releasability. IL-3 is highly expressed by mast cells, and large and rapidly released amounts of autocrine IL-3 production is responsible for mast cell survival by IgE in the absence of antigen. IL-3 has also been implicated in the pathogenesis of several chronic inflammatory diseases, including asthma, atherosclerosis, and neurodegenerative disorders, such as multiple sclerosis. IL-3 stimulates colony formation of megakaryocytes, neutrophils, and macrophages from bone marrow cultures. IL-3 plays a vital role in stimulating basophils and mast cell responses to parasite infections, and since basophils play an important role in Th2 immune responses, IL-3 is a critical regulator of allergic inflammation. IL-3 is expressed in the major embryonic vessels and regulates the survival and proliferation of hematopoietic stem cells in the early stages of embryonic development.

Product Details

Source	Human IL-3, amino acids Ala20-Phe152 (Accession# P08700) was expressed in <i>E. coli</i> .
Molecular Mass	The 133 amino acid recombinant protein has a predicted molecular mass of 15.0 kD. The predicted N-terminal amino acid is Ala.
Purity	>98%, as determined by Coomassie stained SDS-PAGE and HPLC analysis.
Formulation	Lyophilized, carrier-free.
Endotoxin Level	Less than 0.1 ng per µg of protein.
Storage & Handling	Unopened vial can be stored at -20°C or -70°C. For maximum results, quick spin vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. It is recommended to further dilute in a buffer, such as 5% Trehalose, and store working aliquots at -20°C to -80°C. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ is ≤ 0.1 ng/ml, corresponding to a specific activity of ≥ 1.0 x 10 ⁷ units/mg as determined by the dose-dependent stimulation of the proliferation of human TF-1 cells.
Application	Bioassay

Antigen Details

Structure	Cytokine
Distribution	Activated T cells, Th1, Th2, mast cells, eosinophils, keratinocytes, NK cells, and endothelial cells.
Function	IL-3 is a pleiotropic factor which promotes both self-renewal and differentiation of early multipotential progenitors and is involved in inducible hematopoiesis in response to infections.
Interaction	Erythroid cells, megakaryocytes, neutrophils, eosinophils, basophils, mast cells, monocytic lineages.
Ligand/Receptor	Heterodimer IL-3Rα (CD123) a common β subunit (hβc) that is shared with IL-5R/GM-CSFR.
Cell Type	Hematopoietic stem and progenitors
Biology Area	Cell Biology, Stem Cells

Molecular Family

Cytokines/Chemokines

Antigen References

1. Kitamura T, *et al.* 1989. *J. Cell. Physiol.* 140:323.
2. Kohno M, *et al.* 2005. *Blood* 105:2059.
3. Murphy JM and Young IG, 2006. *Vitam. Horm.* 74:1.
4. Kleemann R, *et al.* 2008. *Cardiovasc. Res.* 79:360.
5. Valent P, and Dahinden CA. 2010. *Curr. Opin. Hematol.* 17:60.
6. Mirza S, *et al.* 2010. *J. Biol. Chem.* 285:22370.

Gene ID[3562](#)

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