

Recombinant Rat IL-3 (carrier-free)

Catalog# / Size	750202 / 10 µg 750204 / 25 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, also known as IL-3, was initially described in the supernatant of cultures of viral-infected murine spleen cells. Mature rat IL-3 surprisingly shows low homology (54%) with its murine counterpart. IL-3 is the most potent growth factor for basophils followed by the granulocyte-macrophage colony-stimulating factor and IL-5. These cytokines also act on mature basophils through specific receptors, thereby mediating adhesion, migration, and release of the cells. IL-3 is highly expressed by mast cells. Rapid autocrine production of large amounts of the cytokine is responsible for mast cell IgE-induced survival in the absence of antigen. In addition, IL-3 and its receptors are expressed in neuronal progenitors and neurons. IL-3 has been associated to human brain volume variation by regulating proliferation and survival of neural progenitors. It has also been implicated in the pathogenesis of several chronic inflammatory diseases, which include asthma, atherosclerosis, and neurodegenerative disorders such as multiple sclerosis.

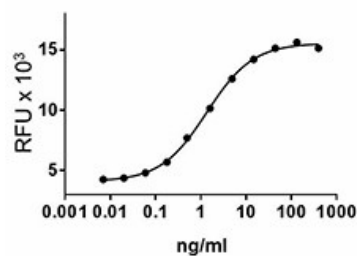
Product Details

Source	Rat IL-3, amino acids Met-(Ile27-Cys169) (Accession# NM_031513.1), was expressed in <i>E.coli</i> .
Molecular Mass	The 144 amino acid recombinant protein has a predicted molecular mass of approximately 16.3 kD. The protein migrates at approximately 18 kD in DTT-reducing conditions and 16 kD in non-reducing conditions by SDS-PAGE. The predicted N-terminal amino acid is Met.
Purity	>95%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in PBS pH 7.2.
Endotoxin Level	Less than 0.01 ng per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ = 1 - 5 ng/ml, corresponding to a specific activity of 0.2 — 1.0 x 10 ⁶ units/mg, as determined by the dose dependent stimulation of a M-NFS-60 cell proliferation assay.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

Antigen Details

Structure	Cytokine.
Distribution	Activated T cells, Th1, Th2, mast cells, eosinophils, keratinocytes, natural killer cells (NK), and endothelial cells.
Function	IL-3 promotes both self-renewal and differentiation of early multipotential progenitors and is involved in inducible hematopoiesis in response to infections. IL-3 stimulates colony formation of megakaryocytes, neutrophils, and macrophages from bone marrow cultures.
Interaction	Erythroid cells, megakaryocytes, neutrophils, eosinophils, basophils, mast cells, and monocytic lineages.
Ligand/Receptor	Heterodimer IL-3R α (CD123) and two alternate β -subunits, AIC2A binds IL-3 and is specific to IL-3R α , AIC2B (CDw131) shared in common with IL-5R, GM-CSFR.
Cell Type	Hematopoietic stem and progenitors
Biology Area	Cell Biology, Stem Cells
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none"> 1. Kohno M, <i>et al.</i> 2005. <i>Blood</i> 105:2059-2065. 2. Valent P and Dahinden CA. 2010. <i>Curr. Opin. Hematol.</i> 17:60-66. 3. Kleemann R, <i>et al.</i> 2008. <i>Cardiovascular Research</i> 79:360-376. 4. Murphy JM, Young IG. 2006. <i>Vitam Horm.</i> 74:1-30. 5. Luo XJ, <i>et al.</i> 2012. <i>PLoS One</i> 7:e50375.
Gene ID	24495

Product Data



M-NFS-60 cell proliferation induced by rat IL-3.

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