

Recombinant Mouse IL-6 (carrier-free)

Catalog# / Size	575702 / 10 µg 575704 / 25 µg 575706 / 100 µg 575708 / 500 µg
Regulatory Status	RUO
Other Names	Interleukin-6, Interferon-β2, B cell stimulating factor-2 (BSF-2), Cytotoxic T cell differentiation factor (CDF), Hepatocyte stimulating factor (HSF), Hybridoma/plasmacytoma growth factor (HPGF)
Description	IL-6 is a multifunctional cytokine that can regulate various immune and inflammatory responses. Several studies have suggested a crucial role for IL-6 in angiogenesis. The use of mice deficient in IL-6 (-/-) demonstrated a critical role for this protein in a mouse model of lung angiogenesis. IL-6 has been shown to cause proliferation and migration of systemic endothelial cells in culture (1). The classical responsiveness to IL-6 is governed by a receptor complex consisting of two membrane-bound subunits, an 80-kD cognate chain (IL-6R), and a ubiquitously expressed 130-kD β-chain receptor (gp130) which acts as the universal signal-transducing element for all IL-6 family cytokines (2). Alternatively, IL-6 regulation of leukocyte trafficking relies upon signaling via its soluble IL-6R (termed IL-6 trans-signaling) (3). IL-6 plays a major role in regulating neutrophil clearance during acute peritoneal inflammation; as a result of specific down-regulation of neutrophil-attracting chemokine (CXCL1/KC) production (4). IL-6 is a key factor that reciprocally regulates Th17 and Foxp3(+) Treg differentiation by inhibition of TGF-beta induced Foxp3 and induction of RORgammat, a Th17 lineage-specific transcription factor (5).

Product Details

Source	Mouse IL-6, amino acids Phe25-Thr211 (Accession# NM_031168), was expressed in <i>E. coli</i> .
Molecular Mass	The 188 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 21,866 Da. The DTT-reduced protein migrates at approximately 22 kD and the non-reduced protein migrates at approximately 21.5 kD by SDS-PAGE.
Purity	Purity is >98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution in Sodium Acetate and EDTA.
Endotoxin Level	Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein 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	The ED ₅₀ is < 0.01 ng/ml, corresponding to a specific activity of > 1 x 10 ⁸ units/mg, as determined by the dose dependent stimulation of 7TD1 cell proliferation.
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 .
Additional Product Notes	Get a 50% discount on this product when purchased in our Activation Bundles. Restrictions apply.

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Application References

(PubMed link indicates BioLegend citation)

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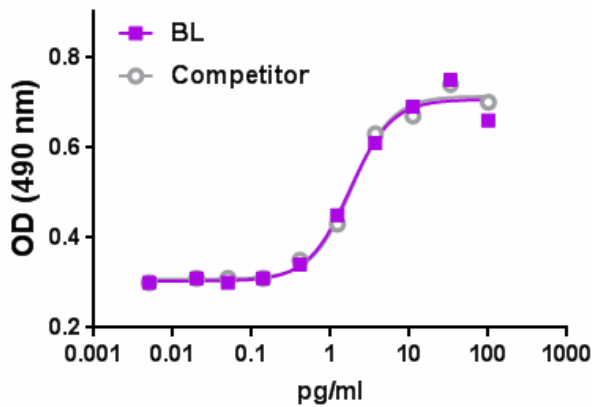
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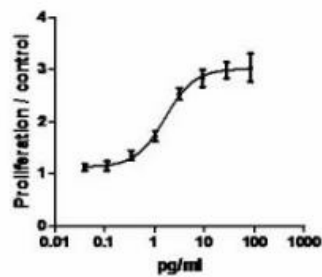
Antigen Details

Distribution	IL-6 is released by activated T cells, B cells, monocytes, macrophages, fibroblasts, epithelial cells, and endothelial cells.
Function	Upregulated by IL-1, PDGF, IFN- β , TNF- α , NGF, IL-17; downregulated by glucocorticoids IL-4, TGF- β
Interaction	T cells, B cells, hepatocytes, cholinergic neurons
Bioactivity	Hematopoiesis, antigen-specific immune responses, inflammatory reactions, acute phase reactions
Receptors	Heterodimer IL-6R α (CD126)/IL-6R β (CD130; gp130) and soluble IL-6R
Cell Type	Hematopoietic stem and progenitors
Biology Area	Cell Biology, Immunology, Innate Immunity, Stem Cells
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. McClintock JE and Wagner EM. 2005. 99:861-8662. Murakami M. 1993. <i>Science</i> 260:1808-1810.3. Jones SA, <i>et al.</i> 2001. <i>J. FASEB.</i> 15:43-58.4. Fielding CA, <i>et al.</i> 2008. <i>J. Immunol.</i> 181:2189-2195.5. Sonderegger I, <i>et al.</i> 2008. <i>Eur. J. Immunol.</i> 38:1833-1838.

Product Data



Recombinant mouse IL-6 induces the proliferation of mouse 7TD1 cells in a dose dependent manner. BioLegend's protein was compared side-by-side to the leading competitor's equivalent product.



Mouse IL-6 induces the proliferation of mouse 7TD1 cells.

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