

## Recombinant Mouse IL-6 (carrier-free)

<b>Catalog# / Size</b>	575702 / 10 µg 575704 / 25 µg 575706 / 100 µg 575708 / 500 µg
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	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)
<b>Description</b>	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

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<b>Source</b>	Mouse IL-6, amino acids Phe25-Thr211 (Accession# NM_031168), was expressed in <i>E. coli</i> .
<b>Molecular Mass</b>	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.
<b>Purity</b>	Purity is >98%, as determined by Coomassie stained SDS-PAGE.
<b>Formulation</b>	0.22 µm filtered protein solution in Sodium Acetate and EDTA.
<b>Endotoxin Level</b>	Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.
<b>Concentration</b>	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 <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.
<b>Storage &amp; Handling</b>	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. <b>Avoid repeated freeze/thaw cycles.</b>
<b>Activity</b>	The ED <sub>50</sub> is < 0.01 ng/ml, corresponding to a specific activity of > 1 x 10 <sup>8</sup> units/mg, as determined by the dose dependent stimulation of 7TD1 cell proliferation.
<b>Application</b>	<a href="#">Bioassay</a>
<b>Application Notes</b>	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 <a href="#">100% satisfaction guarantee</a> . If you have any concerns, contact us at <a href="mailto:tech@biolegend.com">tech@biolegend.com</a> .
<b>Additional Product Notes</b>	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)

1. Wang Q, *et al.* 2010. *J. Immunol.* 185:834. [PubMed](#)
2. Suzuki T, *et al.* 2011. *J. Biol Chem.* 286:31263. [PubMed](#)
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4. Hilberath JN, *et al.* 2011. *FASEB J.* 25:1827. [PubMed](#)
5. Allen MJ, *et al.* 2014. *J Nutr.* 144:1306. [PubMed](#)

## Product Citations

1. Khosravi F, Loeian S, Panchapakesan B 2017. *Biosensors.* 10.3390/bios7020017. [PubMed](#)
2. Bachran C, *et al.* 2017. *Sci Rep.* 10.1038/s41598-017-17948-0. [PubMed](#)
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22. Wu B, *et al.* 2021. *Immunity.* 54(2):308-323.e6. [PubMed](#)

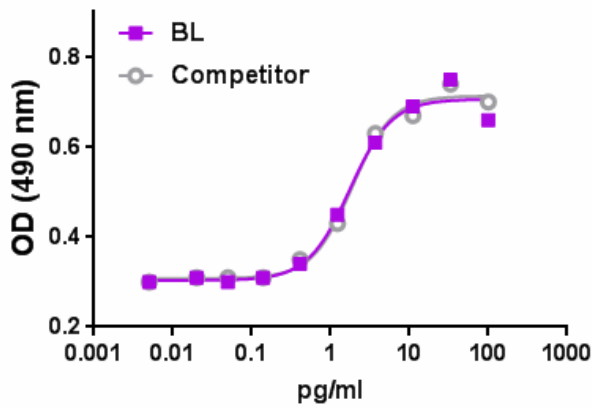
## Antigen Details

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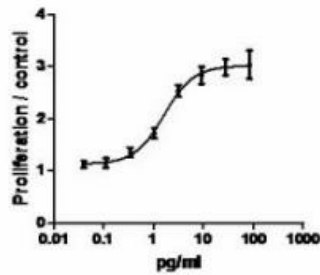
<b>Distribution</b>	IL-6 is released by activated T cells, B cells, monocytes, macrophages, fibroblasts, epithelial cells, and endothelial cells.
<b>Function</b>	Upregulated by IL-1, PDGF, IFN- $\beta$ , TNF- $\alpha$ , NGF, IL-17; downregulated by glucocorticoids IL-4, TGF- $\beta$
<b>Interaction</b>	T cells, B cells, hepatocytes, cholinergic neurons
<b>Bioactivity</b>	Hematopoiesis, antigen-specific immune responses, inflammatory reactions, acute phase reactions
<b>Receptors</b>	Heterodimer IL-6R $\alpha$ (CD126)/IL-6R $\beta$ (CD130; gp130) and soluble IL-6R
<b>Cell Type</b>	Hematopoietic stem and progenitors
<b>Biology Area</b>	Cell Biology, Immunology, Innate Immunity, Stem Cells
<b>Molecular Family</b>	Cytokines/Chemokines
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. McClintock JE and Wagner EM. 2005. 99:861-866</li><li>2. Murakami M. 1993. <i>Science</i> 260:1808-1810.</li><li>3. Jones SA, <i>et al.</i> 2001. <i>J. FASEB.</i> 15:43-58.</li><li>4. Fielding CA, <i>et al.</i> 2008. <i>J. Immunol.</i> 181:2189-2195.</li><li>5. Sonderegger I, <i>et al.</i> 2008. <i>Eur. J. Immunol.</i> 38:1833-1838.</li></ol>
<b>Gene ID</b>	<a href="#">16193</a>

## Product Data

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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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