

Recombinant Human IL-6 (carrier-free)

Catalog# / Size	570808 / 500 µg 570802 / 10 µg 570804 / 25 µg 570806 / 100 µg
Regulatory Status	RUO
Other Names	Interleukin-6, 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 potent lymphoid cell growth factor that stimulates the growth and survival of certain B cells and T cells. IL-6 plays a role in host defense, acute phase reactions, immune response, and hematopoiesis. IL-6 is expressed by T cells, B cells, monocytes, fibroblasts, hepatocytes, endothelial cells and keratinocytes.

Product Details

Source	Human IL-6, amino acids Pro29-Met212 (Accession # NM_000600) was expressed in <i>E. coli</i> .
Molecular Mass	The 185 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 21,041 Da. The DTT-reduced and non-reduced protein migrate at approximately 23kDa by SDS-PAGE.
Purity	Purity is >98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10mM NaH ₂ PO ₄ , 150mM NaCl, pH 7.2.
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	<p>The ED₅₀ is 4-20 pg/ml, corresponding to a specific activity of 0.5-2.5 X10⁸ units/mg, as determined by a dose dependent stimulation in a 7TD1 cell proliferation assay.</p> <p>The specific activity of recombinant human IL-6 is approximately 5.0 x 10⁴ IU/µg when compared against the 1st WHO International Standard for Interleukin-6 (NIBSC code: 89/548) as determined by the dose dependent stimulation of 7TD1 cell proliferation.</p> <p>For more information on specific activity, please visit the Recombinant Protein Unit Conversions page.</p>
Application	Bioassay
Recommended Usage	Use when high specific biological activity is required.
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	View more applications data for this product in our Scientific Poster Library .
Application References	

1. Reitsma JM, *et al.* 2013. *J Virol.* 87:10763. [PubMed](#)

(PubMed link indicates BioLegend citation)

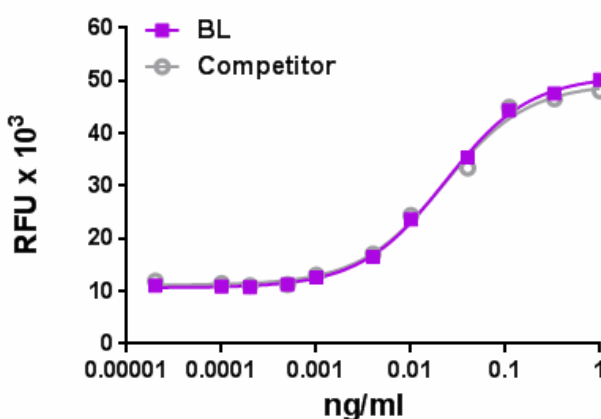
Product Citations

1. Ibrahim ML, *et al.* 2018. *Cell Rep.* 25:3036. [PubMed](#)
2. Fulciniti M, *et al.* 2018. *Cell Rep.* 25:3693. [PubMed](#)
3. Wong GK, *et al.* 2019. *JCI Insight.* 4. [PubMed](#)
4. Jokela TA, *et al.* 2018. *Front Cell Dev Biol.* 6:41. [PubMed](#)
5. Zhang H, *et al.* 2020. *Front Cell Dev Biol.* 8:205. [PubMed](#)
6. Guo J, *et al.* 2019. *Cancer Immunol Res.* 1.349305556. [PubMed](#)
7. Reitsma J, *et al.* 2013. *J Virol.* 87:10763. [PubMed](#)
8. Sugawara E, *et al.* 2020. *Autophagy.* 1.323611111. [PubMed](#)

Antigen Details

Structure	Neuropoietic cytokine family
Distribution	T cells, B cells, macrophages, bone marrow stromal cells, fibroblasts, keratinocytes, mesangium, astrocytes, endothelial cells
Function	Upregulated by IL-1, TNF, PDGF, IFN- β , TNF- α , NGF, IL-17; downregulated by glucocorticoids IL-4, TGF- β
Interaction	T cells, B cells, hepatocytes, cholinergic neurons
Ligand/Receptor	Heterodimer IL-6R α (CD126)/IL-6R β (CD130, gp130)
Bioactivity	Hematopoiesis; antigen-specific immune responses, inflammatory reactions; acute phase reaction
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. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook</i>. Academic Press San Diego.2. Hirano T. 1998. <i>Intl. Rev. Immunol.</i> 16:249.3. Patterson P. 1992. <i>Curr. Opin. Neurobiol.</i> 2:94.4. Van Oers M, <i>et al.</i> 1993. <i>Ann. Hematology</i> 66:219.
Gene ID	3569

Product Data



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

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