

Recombinant Human Interleukin-6 (IL-6)

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Catalog Number:	PHC0064	PHC0065	PHC0066	PHC0061	PHC0063
Quantity:	5 µg	10 µg	25 µg	100 µg	1 mg
Lot Number:	See product label.				
Molecular Weight:	21.3 kDa				
Purity:	>95% as determined by SDS-PAGE analysis.				
Amino Acid Sequence:	PVPPGEDSKD VAAPHRQPLT SSERIDKQIR YILDGISALR KETCNKSNMC ESSKEALAEN NLNLPKMAEK DGCFQSGFNE ETCLVKIITG LLEFEVYLEY LQNRFSSEE QARAQVMSTK VLIQFLQKKA KNLDAITTPD PTTNASLLTK LQAQNQWLQD MTTHLILRSF KEFLQSSLRA LRQM				
Biological Activity:	ED ₅₀ range = 0.008–0.02 ng/mL (Specific Activity: 1.25 × 10 ⁸ –5.0 × 10 ⁷ units/mg), determined by the dose dependent proliferation of mouse B9 cells. The optimal concentration for each specific application should be determined by an initial dose-response assay.				
Formulation:	Lyophilized, carrier free.				
Sterility:	Filtered prior to lyophilization through a 0.22 micron sterile filter.				
Endotoxin:	<0.1 ng/µg				
Production:	Recombinant human IL-6 is produced in <i>E. coli</i> and purified via sequential chromatography.				
Reconstitution Recommendation:	Lyophilized hIL-6 should be reconstituted in 100 mM acetic acid to a concentration of 0.1–1.0 mg/mL to regain full activity. Stock solutions should be apportioned into working aliquots and stored at ≤–20°C. Further dilutions should be made in low endotoxin medium or buffered solution with FBS or tissue culture grade BSA.				
Suggested Working Dilutions:	The optimal concentration should be determined for each specific application.				
Storage:	Lyophilized hIL-6 should be stored at 2°C to 8°C, preferably desiccated. Store reconstituted hIL-6 at ≤–20°C (not in a frost-free freezer). Keep freeze-thaw cycles to a minimum.				
Expiration Date:	Expires one year from date of receipt when stored as instructed.				
References:	<p>Hirano, T. (1994) The Cytokine Handbook, 2nd Edition. (ed. A. Thomson) Academic Press Limited. San Diego, CA. pp 145–168.</p> <p>Agrawal, A., H. Cha-Molstad, D. Samols, and I. Kushner (2001) Transactivation of c-reactive protein by IL-6 requires synergistic interaction of CCAAT/enhancer finding protein beta (C/EBP beta) and Rel p50. <i>J. Immunol.</i> 166(4):2378–2384.</p> <p>Craig, R., A.M. Larkin, A.M. Mingo, D.J. Thuerauf, C. Andrews, P.M. McDonough, and C.C. Glembotski (2000) p38 mitogen-activated protein kinase and nuclear factor-κB collaborate to induce interleukin-6 gene expression and release: evidence for a cytoprotective autocrine signaling pathway in a cardiac myocyte model system. <i>J. Biol. Chem.</i> 275(31):23814–23824.</p> <p>Cha-Molstad, H., A. Agrawal, D. Zhang, D. Samols, and I. Kushner (2000) The rel family member p50 mediates cytokine-induced C-reactive protein expression by a novel mechanism. <i>J. Immunol.</i> 165:4592–4597.</p> <p>Dao, M., N. Taylor, and J. Nolta (1998) Reduction in levels of the cyclin-dependent kinase inhibitor p27kip-1 coupled with transforming growth factor β neutralization induces cell-cycle entry and increases retroviral transduction of primitive human hematopoietic cells. <i>Proc. Nat'l. Acad. Sci.</i> 95(22):13006–13011.</p> <p>Dao, M.A., J. Hwa, and J.A. Nolta (2002) Molecular mechanism of transforming growth factor beta-mediated cell-cycle modulation in primary human CD34(+) progenitors. <i>Blood</i> 99(2):499–506.</p> <p>Kahlert, H., E. Grage-Griebenow, H.T. Stuwe, O. Cromwell, and H. Fiebig (2000) T cell reactivity with allergoids: Influence of the type of APC. <i>J. Immunol.</i> 165(4):1807–1815.</p> <p>Karlsson, J.O., M.L. Yarmush, and M. Toner (1998) Interaction between heat shock and interleukin 6 stimulation in the acute-phase response of human hepatoma (HepG2) cells. <i>Hepatology</i> 28(4):994–1004.</p>				

References, Continued:	<p>Lin, M.S., S.J. Swartz, A. Lopez, X. Ding, M.A. Fernandez-Vine, P. Stastny, J.A. Fairley, and L.A. Diaz (1997) Development and characterization of desmoglein-3 specific T cells from patients with pemphigus vulgaris. <i>J. Clin. Invest.</i> 99(1):31–40.</p> <p>Modur, V., G.A. Zimmerman, S.M. Prescott, and T.M. McIntyre (1996) Endothelial cell inflammatory responses to tumor necrosis factor alpha. Ceramide-dependent and -independent mitogen-activated protein kinase cascades. <i>J. Biol. Chem.</i> 271(22):13094–13102.</p> <p>Modur, V., Y. Li, G.A. Zimmerman, S.M. Prescott, and T.M. McIntyre (1997) Retrograde inflammatory signaling from neutrophils to endothelial cells by soluble interleukin-6 receptor alpha. <i>J. Clin. Invest.</i> 100(11):2752–2756.</p> <p>Rajan, R., R. Vanderslice, S. Kapur, J. Lynch, R. Thompson, and D. Djakiew (1996) Epidermal growth factor (EGF) promotes chemomigration of a human prostate tumor cell line, and EGF immunoreactive proteins are present at sites of metastasis in the stroma of lymph nodes and medullary bone. <i>Prostate</i> 28(1):1–9.</p> <p>Wagers, A.J. and G.S. Kansas (2000) Potent induction of alpha(1,3) fucosyltransferase VII in activated CD4 (+) T cells by TGF-beta 1 through a p38 mitogen-activated protein kinase-dependent pathway. <i>J. Immunol.</i> 165(9):5011–5016.</p> <p>Wang, B.N., E. Kraig, and D. Kolodrubetz (2000) Use of defined mutants to assess the role of the <i>Campylobacter rectus</i> S-layer in bacterium-epithelial cell interactions. <i>Infection and Immunity</i> 68(3):1465–1473.</p> <p>Zaitseva, M., S. Lee, C. Lapham, R. Taffs, L. King, T. Romantseva, J. Manischewitz, and H. Golding (2000) Interferon gamma and interleukin 6 modulate the susceptibility of macrophages to human immunodeficiency virus type 1 infection. <i>Blood</i> 96(9):3109–3117.</p>
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Explanation of Symbols

The symbols present on the product label are explained below:

Symbol	Description
	Catalog Number
	Research Use Only
	Use by
	Manufacturer
	Without, does not contain
	Protect from light
	Directs the user to consult instructions for use (IFU), accompanying the product.

Symbol	Description
	Batch code
	In vitro diagnostic medical device
	Temperature limitation
	European Community authorized representative
	With, contains
	Consult accompanying documents

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