

Recombinant Human Interleukin-2 (IL-2)

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Catalog Number:	PHC0026	PHC0027	PHC0021	PHC0023
Quantity:	10 µg	40 µg	100 µg	1 mg
Lot Number:	See product label.			
Molecular Weight:	15.5 kDa			
Purity:	>95% as determined by SDS-PAGE analysis.			
Biological Activity:	ED ₅₀ range = 0.08–0.5 ng/mL, determined by the dose dependent proliferation of mouse CTLL-2 cells. Optimal concentration for individual application should be determined by a 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-2 is produced in <i>E. coli</i> and purified via gel filtration chromatography.			
Reconstitution Recommendation:	We recommend that the vial be briefly centrifuged prior to opening to bring the contents to the bottom. Lyophilized hIL-2 should be reconstituted in 100 mM acetic acid to 0.1–1.0 mg/mL to regain full activity. These 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-2 should be stored at 2°C to 8°C, preferably desiccated. Store reconstituted hIL-2 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>Blumenthal, R.L., D.E. Campbell, P. Hwang, R.H. DeKruyff, L.R. Frankel, and D.T. Umetsu (2001) Human alveolar macrophages induce functional inactivation in antigen-specific CD4 T cells. <i>J. Allergy Clin. Immunol.</i> 107(2):258–264.</p> <p>Camporeale, G. and J. Zempleni (2003) Oxidative folding of interleukin-2 is impaired in flavin-deficient Jurkat cells, causing intracellular accumulation of interleukin-2 and increased expression of stress response genes. <i>Journal of Nutrition</i> 133(3):668–672.</p> <p>Chen, M., B. Gran, K. Costello, K. Johnson, R. Martin, and S. Dhib-Jalbut (2001) Glatiramer acetate induces a Th2-biased response and crossreactivity with myelin basic protein in patients with MS. <i>Multiple Sclerosis</i> 7(4):209–219.</p> <p>Cochran, J.R., T.O. Cameron, J.D. Stone, J.B. Lubetsky, and L.J. Stern (2001) Receptor proximity, not intermolecular orientation is critical for triggering T-cell activation. <i>J. Biol. Chem.</i> 276(30):28068–28074.</p> <p>Esser, M.T., D.M. Haverstick, C.L. Fuller, C.A. Gullo, and V.L. Braciale (1998) Ca²⁺ signaling modulates cytolytic T lymphocyte effector functions. <i>J. Exp. Med.</i> 187(7):1057–1067.</p> <p>Fan, R., S.S. Tykodi, and T.J. Braciale (2000) Recognition of a sequestered self peptide by influenza virus-specific CD8(+) cytolytic T lymphocytes. <i>J. Immunol.</i> 164:1669–1680.</p> <p>Graham, M.B. and T.J. Braciale (1997) Resistance to and recovery from lethal influenza virus infection in B lymphocyte-deficient mice. <i>J. Exp. Med.</i> 186(12):2063–2068.</p> <p>Guilherme, L., S.E. Oshiro, K.C. Fae, E. Cunha-Neto, G. Renesto A.C. Goldberg, A.C. Tanaka, P.M.A. Pomerantzeff, M.H. Kiss, C. Silva, F. Guzman, M.E. Patarroyo, S. Southwood, A. Sette, and J. Kalil (2001) T-cell reactivity against streptococcal antigens in the periphery mirrors reactivity of heart-infiltrating T lymphocytes in rheumatic heart disease patients. <i>Infection Immunity</i> 69(9):5345–5351.</p> <p>Gullo, C.A., M.T. Esser, C.L. Fuller, and V.L. Braciale (1999) Generation of IL-2-dependent cytolytic T lymphocytes (CTLs) with altered TCR responses derived from antigen-dependent CTL clones. <i>J. Immunol.</i> 162 (11):6466–6472.</p>			

References, continued:	<p>Kemper, C., A.C. Chan, J.M. Green, K.A. Brett, K.M. Murphy, and J.P. Atkinson (2003) Activation of human CD4(+) cells with CD3 and CD46 induces a T-regulatory cell 1 phenotype. <i>Nature</i> 421(6921):388–392.</p> <p>Kindt, T.J., W.A. Said, F.S. Bowers, W. Mahana, T.M. Zhao, and R.M. Simpson (2000) Passage of human T-cell leukemia virus type-1 during progression to cutaneous T-cell lymphoma results in myelopathic disease in an HTLV-1 infection model. <i>Microbes and Infection</i> 2(10):1139–1146.</p> <p>Loparev, V., J. Parsons, J. Knight, J. Fanelli Panus, C. Ray, R. Buller, D. Pickup, and J. Esposito (1998) A third distinct tumor necrosis factor receptor of orthopoxviruses. <i>Proc. Nat'l. Acad. Sci.</i> 95(7):3786–3791.</p> <p>Molldrem, J.J.; P.P. Lee, S. Kant, E. Wieder, W.D. Jiang, S.J. Lu, C.Q. Wang and M.M. Davis (2003) Chronic myelogenous leukemia shapes host immunity by selective deletion of high-avidity leukemia-specific T cells. <i>J. Clin. Invest.</i> 111(5):639–647.</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>Robey, F.A. and M. Robert-Guroff (2001) A defined conformational epitope from the C4 domain of HIV type 1 glycoprotein 120: Anti-cyclic C4 antibodies from HIV-positive donors magnify glycoprotein 120 suppression of interleukin 2 produced by T cells. <i>Aids Research and Human Retroviruses</i> 17(6):533–541.</p> <p>Stranick, K.S., D.N. Zambas, A.S. Uss, R.W. Egan, M.M. Billah, and S.P. Umland (1997) Identification of transcription factor binding sites important in the regulation of the human interleukin-5 gene. <i>J. Biol. Chem.</i> 272(26):16453–16465.</p> <p>Wagers, A.J., C.M. Waters, L.M. Stoolman, and G.S. Kansas (1998) Interleukin 12 and interleukin 4 control T cell adhesion to endothelial selectins through opposite effects on alpha1, 3-fucosyltransferase VII gene expression. <i>J. Exp. Med.</i> 188(12):2225–2231.</p> <p>Weng, Y., S.J. Siciliano, K.E. Waldburger, A. Sirotna-Meisher, M.J. Staruch, B.L. Daugherty, S.L. Gould, M.S. Springer, and J.A. DeMartino (1998) Binding and functional properties of recombinant and endogenous CXCR3 chemokine receptors. <i>J. Biol. Chem.</i> 273(29):18288–18291.</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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