Recombinant Human Interleukin 4 (IL–4)

Catalog Number PHC0044 (10 µg), PHC0045 (25 µg), PHC0041 (100 µg), PHC0043 (1 mg)

Pub. No. MAN0003621 **Rev.** 3.0

Product specifications

Lot number	See product label.
Molecular weight	14.9 kDa
Purity	>95% as determined by SDS PAGE analysis.
Amino acid sequence	HKCDITLQEI IKTLNSLTEQ KTLCTELTVT DIFAASKNTT EKETFCRAAT VLRQFYSHHE KDTRCLGATA QQFHRHKQLI RFLKRLDRNL WGLAGLNSCP VKEANQSTLE NFLERLKTIM REKYSKCSS
Biological activity	ED_{50} 0.05–0.4 ng/mL (specific activity: 2.0 x 10^7 to 2.5 x 10^6 units/mg), determined by measuring the dose dependent proliferation of human TF-1 cells. Determine the optimal concentration for each specific application using an initial dose response assay (a concentration range of 0.1–10.0 ng/mL is effective for most *in vitro* applications).
Formulation	Lyophilized, carrier free.
Sterility	Filtered before lyophilization through a 0.22 micron sterile filter.
Endotoxin	<0.1 ng/µg
Production	Produced in *E. coli* and purified via sequential chromatography.
Reconstitution recommendation	Centrifuge the vial briefly, before opening to bring the contents to the bottom. Reconstitute the lyophilized protein in sterile, deionized water to 0.1–1.0 mg/mL to regain full activity. Apportion the reconstituted protein into working aliquots and store at ≤ –20°C. Make any further dilutions of the reconstituted protein in low endotoxin medium or buffered solution with FCS or tissue culture grade BSA.
Suggested working dilutions	The optimal concentration should be determined for each specific application.
Storage	Store the lyophilized protein at 2–8°C, preferably desiccated. Upon reconstitution, apportion into working aliquots and store at ≤ –20°C (not in a frost-free freezer). Avoid repeated freeze-thaw cycles.
Expiration date	Expires one year from date of receipt when stored as instructed.
References	Paul, WE. (1991) Interleukin 4: A prototypical immunoregulatory lymphokine. Blood 77:1859-1870. Chapoval, AI, Tamada, K, and Chen, LP. (2000). In vitro growth inhibition of a broad spectrum of tumor cell lines by activated human dendritic cells. Blood 95(7):2346-2351. Francisco, JA, Donaldson, KL, Chace, D, Siegall, CB, and Wahl, AF. (2000) Agonistic properties and in vivo antitumor activity of the anti-CD40 antibody SGN-14. Cancer Research 60(12):3225-3231. Gubina, E, Luo, X, Kwon, E, Sakamoto, K, Shi, YF, and Mufson, RA. (2001) ß c cytokine receptor-induced stimulation of cAMP response element binding protein phosphorylation requires protein kinase C in myeloid cells: A novel cytokine signal transduction cascade. J. Immunol. 167(8):4303-4310. Kahlert, H, Grage-Griebenow, E, Stuwe, HT, Cromwell, O, and Fiebig, H. (2000) T cell reactivity with allergoids: Influence of the type of APC. J. Immunol. 165(4):1807-1815. Kim, DK, Lee, TV, Catilleja, A, Anderson, BW, Peoples, GE, Kudelka, AP, Murray, JL, Sittisomwong, T, Wharton, JT, Kim, JW and Ioannides, CG. (1999) Folate binding protein peptide 191-199 presented on dendritic cells can stimulate CTL from ovarian and breast cancer patients. Anticancer Research 19:2907-2916. Parada, NA, Center, DM, Kornfeld, H, Rodriguez, WL, Cook, J, Vallen, M, and Cruikshank, WW. (1998) Synergistic activation of CD4+ T cells by IL-16 and IL-2. J. Immunol. 160(5):2115-2120. Piccinini, G, Foli, A, Comolli, G, Lisziewicz, J, and Lori, F. (2002) Complementary antiviral efficacy of hydroxyurea and protease inhibitors in human immunodeficiency virus-infected dendritic cells and lymphocytes. J. Virol.76 (5): 2274-2278. Rao, RM, Haskard, DO, and Landis, RC. (2002) Enhanced recruitment of TH2 and CLA-Negative lymphocytes by the S128R polymorphism of E-Selectin(1). J. Immunol. 169 (10):5860-5865.

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Limited product warranty

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Explanation of Symbols

Symbol	Description	Symbol	Description	Symbol	Description
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