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Recombinant Human Interleukin–1β (IL–1β)

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Catalog Number:	PHC0814	PHC0815	PHC0816	PHC0811	PHC0813
Quantity:	2 µg	10 µg	25 µg	100 µg	1 mg

Lot Number:	See product label.
Molecular Weight:	17.5 kDa
Purity:	>95% as determined by SDS–PAGE analysis.
Amino Acid Sequence:	APVRSLNCTL RDSQQKSLVM SGPYELKALH LQGQDMEQQV VFSMSFVQGE ESNDKIPVAL GLKEKNLYLS CVLKDDKPTL QLESVDPKNY PKKKMEKRFV FNKIEINNKL EFESAQFPNW YISTSQAENM PVFLGGTKGG QDITDFTMQF VSS
Biological Activity:	ED_{50} range = 1.4–4 pg/mL (Specific Activity: 7.1×10^8–2.5×10^8 units/mg), determined by the dose dependent proliferation of murine D10S 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–1β is produced in *E. coli* and purified via sequential chromatography.
Reconstitution Recommendation:	We recommend that the vial be briefly centrifuged prior to opening to bring the contents to the bottom. Lyophilized hIL–1β should be reconstituted in deionized water 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-1β should be stored at 2°C to 8°C, preferably desiccated. Store reconstituted hIL–1β 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:	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 p 50. J. Immunol. 166 (4):2378–2384. Auron, P.E., A.C. Webb, L.J. Rosenwasser, S.F. Mucci, A. Rich, S.M. Wolff, and C.A. Dinarello (1984) Nucleotide sequence of human monocyte interleukin 1 precursor cDNA. Proc. Nat'l. Acad. Sci. 81(24):7907–7911. 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. J. Immunol. 165:4592–4597. Gianoukakis, A.G., H.J. Cao, T.A. Jennings, and T.J. Smith (2001) Prostaglandin endoperoxide H synthase expression in human thyroid epithelial cells. Am. J. Physiol. Cell Physiol. 280:C701–C708. Goodrum, K.J. and J. Poulson-Dunlap (2002) Cytokine responses to group B streptococci induce nitric oxide production in respiratory epithelial cells. Infect. Immun. 70 (1):49–54. Han, R. and T.J. Smith (2002) Cytoplasmic prostaglandin E-2 synthase is dominantly expressed in cultured KAT-50 thyrocytes, cells that express constitutive prostaglandin- endoperoxide H synthase-2 - Basis for low prostaglandin E-2 production. J. Biol. Chem. 277(39):36897–36903 Ling, L. and D.V. Goeddel (2000) T6BP, a TRAF6-interacting protein involved in IL-1 signaling. Proc. Nat'l. Acad. Sci. 97:9567–9572. 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. Proc. Nat'l. Acad. Sci. 95(7):3786–3791.

References, continued:	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. J. Immunol. 165(4):1807–1815. Kiecolt-Glaser, J.K., P.T. Marucha, C. Atkinson, and R. Glaser (2001) Hypnosis as a modulator of cellular immune dysregulation during acute stress. J. Consulting Clinical Psychol. 69(4):674–682. Nguyen, K.T., T. Deak, S.M. Owens, T. Kohno, M. Fleshner, L.R. Watkins, and S.F. Maier (1998) Exposure to acute stress induces brain interleukin-1β protein in the rat. J. Neurosci. 18(6):2239–2246. Orencole, S. F. and C. A. Dinarello (1989) Characterization of a subclone (D10S) of the D10.G4.1 helper T-cell line which proliferates to attomolar concentrations of interleukin-1 in the absence of mitogens. Cytokine 1:14–22. Pritchard, J., N. Horst, W. Cruikshank, and T.J. Smith (2002) Igs from patients with Graves' disease induce the expression of T cell chemoattractants in their fibroblasts. J. Immunol. 168 (2):942–950. Wang, B.N., E. Kraig, and D. Kolodrubetz (2000) Use of defined mutants to assess the role of the Campylobacter rectus S-layer in bacterium-epithelial cell interactions. Infection and Immunity 68(3): 1465–1473.

Explanation of Symbols

The symbols present on the product label are explained below:

Symbol	Description
REF	Catalog Number
RUO	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
LOT	Batch code
IVD	In vitro diagnostic medical device
	Temperature limitation
EC REP	European Community authorized representative
[+]	With, contains
⚠	Consult accompanying documents

Limited Use Label License: Research Use Only

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