IL-1 beta Protein, Human (His, E6K)

Cat. No.:	HY-P701104
Synonyms:	Interleukin-1 beta; IL-1β; IL1F2; IL-1 beta; IL1B
Species:	Human
Source:	E. coli
Accession:	P01584/NP_000567.1 (M1-S269, E6K)
Gene ID:	3553
Molecular Weight:	Approximately 32 kDa

PROPERTIES

AA Sequence	M A E V P K L A S E M M A Y Y S G N E D D L F F E A D G P K Q M K C S F Q D L D L C P L D G G I Q L R I S D H H Y S K G F R Q A A S V V V A M D K L R K M L V P C P Q T F Q E N D L S T F F P F I F E E E P I F F D T W D N E A Y V H D A P V R S L N C T L R D S Q Q K S L V M S G P Y E L K A L H L Q G Q D M E Q Q V V F S M S F V Q G E E S N D K I P V A L G L K E K N L Y L S C V L K D D K P T L Q L E S V D P K N Y P K K K M E K R F V F N K I E I N N K L E F E S A Q F P N W Y I S T S Q A E N M P V F L G G T K G G Q D I T D F T M Q F V S S
Biological Activity	Measured in a proliferation assay using CTLL-2 Cells. The ED_{50} for this effect is 3.106 pg/mL, corresponding to a specific activity is 3.21×10^8 units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized a 0.22 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, 200 mM arginine, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Interleukin-1β (IL-1β) is one of the pro-inflammatory cytokines and is produced and secreted by a variety of cell types although the vast majority of studies have focussed on its production within cells of the innate immune system, such as monocytes and macrophages[1][2].

IL-1β is produced as inactive pro-IL-1β (encoded by pro-Il-1b) in response to inflammatory stimuli, including both microbial products and endogenous danger-associated molecules. IL-1β gene expression and synthesis of pro-IL-1β occurs after activation of pattern recognition receptors (PRRs). Inflammatory stimuli also drive activation of cytosolic CARD and PYHIN domain-containing PRRs that recruit ASC and caspase-1 (Casp-1) to assemble into the multiprotein complex inflammasome. Pro-Casp-1 (encoded by pro-Casp-1), activated by the inflammasome, cleaves pro-IL-1β into the bioactive IL-1β. IL-1β acts in an autocrine/paracrine manner via the type I IL-1 receptor (IL-1R1)[1][2][3].

IL-1β could regulate the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. IL-1β also plays a significant regulator of reproduction in females[1][2][3].

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