Active Recombinant Human Interleukin 1, Beta

Cat. No. IL1B-461H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Interleukin-1beta (IL-1μ) is a proinflammatory cytokine produced in response to inflammatory agents by a variety of cells, including monocytes, macrophages, and dendric cells (DCs). IL-1μ and IL-1μ are two distinct and independently regulated gene products that comprise IL-1 and signal through the Type 1 IL-1 receptor (IL-1R1). Although IL-1μ is cell associated and IL-1μ is secreted, they have nearly identical biological activity in that they induce adhesion molecule expression on epithelial cells, control fever induction, and play a role in arthritis and septic shock. Signaling activated by the IL-1R1 promotes these activities through a MYD88 signaling pathway similar to those associated with Toll receptors. Recombinant human IL-1μ is a non-glycosylated single chain 17,376 Da protein containing 153 amino acid residues.
Species	Human
Source	E.coli
Description	The protein encoded by this gene is a member of the interleukin 1 cytokine family. This cytokine is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1 (CASP1/ICE). The induction of cyclooxygenase-2 (PTGS2/COX2) by this cytokine in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity.
Form	Lyopohilized from 10 mM NaP, pH 7.5.

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Purity	Purity Greater than 97% as determined by: Analysis by RP-HPLC. Reducing and non-reducing SDS-PAGE.
Bio-activity	Human IL-1μ is fully biologically active when compared to a standard. The ED 50 , as determined by the dose-dependent proliferation of mouse D10S cells, is 1 pg/ml.
Physical Appearance	Sterile Filtered white lyophilized (freeze-dried) powder.
Solubility	It is recommended to reconstitute the lyophilized product with sterile water at a concentration of 0.1 mgμs/ml, which can be further diluted into other aqueous solutions.
Purity Greater than 97% as determined by	Analysis by RP-HPLC. Reducing and non-reducing SDS-PAGE.
Protein Content determined by	UV spectroscopy at 280 nm. Analysis by RP-HPLC calibrated against a known standard. Quantitation on SDS-PAGE against a known standard.
Endotoxin Level	Endotoxin level as measured by LAL is <0.01ng/ug or <0.1EU/ug.
Amino acid sequence	APVRSLNCTL RDSQQKSLVM SGPYELKALH LQGQDMEQQV VFSMSFVQGE ESNDKIPVAL GLKEKNLYLS CVLKDDKPTL QLESVDPKNY PKKKMEKRFV FNKIEINNKL EFESAQFPNW YISTSQAENM PVFLGGTKGG QDITDFTMQF VSS
Storage	Lyophilized product is very stable at -20 degrees. Reconstituted material should be aliquoted and frozen at -20. It is recommended to add a carrier protein (0.1% HSA or BSA) for long term storage.

GENE INFORMATION

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Gene Name	IL1B interleukin 1, beta [Homo sapiens]
Official Symbol	IL1B
Synonyms	IL1B; interleukin-1 beta; IL-1; IL1F2; IL1-BETA; IL-1 beta; catabolin; OTTHUMP00000162031; preinterleukin 1 beta; pro-interleukin-1-beta
Gene ID	3553
mRNA Refseq	NM_000576
Protein Refseq	NP_000567
MIM	147720
UniProt ID	P01584
Chromosome Location	2q14
Pathway	African trypanosomiasis; Alzheimer"s disease; Amoebiasis; Apoptosis; Cellular roles of Anthrax toxin; Chagas disease (American trypanosomiasis); Cytokine Signaling in Immune system; Cytokine-cytokine receptor interaction; Cytokines and Inflammatory Response; Cytosolic DNA-sensing pathway; Graft-versus-host disease; Hematopoietic cell lineage; IFN-gamma pathway; IL12-mediated signaling events; Immune System; Interleukin-1 signaling
Function	interleukin-1 receptor binding; protein binding; signal transducer activity; cytokine activity; growth factor activity

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