



Recombinant Human Interleukin-1 beta (rhIL-1b)

Catalog #101-01b

Product Description

Recombinant Human Interleukin-1 beta (rhIL-1b) is a secreted pro-inflammatory cytokine belonging to the IL-1 family, produced primarily by activated monocytes, macrophages, and dendritic cells. The human IL-1b precursor (pro-IL-1b, 269 amino acids) is synthesized as an inactive cytoplasmic protein that undergoes proteolytic cleavage by caspase-1 (IL-1b-converting enzyme) to yield the mature 17 kDa cytokine. IL-1 β binds to the Interleukin-1 receptor type I (IL-1RI), triggering MyD88-dependent NF- κ B and MAPK signaling cascades that promote expression of inflammatory mediators, cell adhesion molecules, and acute-phase proteins.

IL-1 β plays a central role in mediating innate and adaptive immune responses, fever induction, leukocyte recruitment, and tissue remodeling. Dysregulated IL-1 β activity is implicated in numerous inflammatory and autoimmune disorders, including rheumatoid arthritis, gout, type 2 diabetes, and atherosclerosis.

Recombinant Human IL-1 β corresponds to the mature form of the cytokine with an additional N-terminal His tag for bacterial expression, yielding a total length of 171 amino acids. The protein is biologically active and retains full receptor-binding and signaling properties.

Specifications

Synonyms:	IL-1 β , IL1b, IL-1b IL-1F2 (Interleukin-1 family member 2)
AA Sequence:	MGSSHHHHHH SENLYFQGAP VRSLNCTLRD SQKSLVMSG PYELKALHLQ GQDMEQQVVF SMSFVQGEES NDKIPVALGL KEKNLYLSCV LKDDKPTLQL ESVDPKNYPK KKMEKRFFVN KIEINNKLEF ESAQFPNWYI STSQAENMPV FLGGTKGGQD ITDFTMQFVS S
Source:	<i>E. coli</i>
Purity	> 95%

Quality Control

Endotoxin:	<0.1 ng/ μ g of protein (<1 EU/ μ g)
Sterility	No microorganisms
Physical Appearance:	Light yellow to white powder

Rev. 0

Formulation

Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution in 1x PBS with dextran as protectant.

Reconstitution

Reconstitute in sterile distilled water or sterile 1x PBS containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL.

Shipping and Storage

Gel ice. Upon receipt, store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.

Usage

rhIL-1b is for research use only. It is not approved for human or animal use, or for application in clinical or *in vitro* diagnostic procedures.