

Human Interleukin-1 β (hIL-1 β)



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MW (kDa):	UniProt ID:	Entrez-Gene Id:
18	#P01584	3553

Background

IL-1 β is a pro-inflammatory cytokine produced predominantly by activated monocytes and epithelial cells (1). Precursor IL-1 β is cleaved by caspase-1 and mature IL-1 β is then secreted (1-3). Target cells include macrophages and many other cell types. Signaling by IL-1 β involves IL-1 β binding to IL-1 accessory protein (IL-1-AcP) and then the complex binds to IL-1RI (1,2). Signaling is through activation of MAP kinase and NF- κ B pathways (1,2). IL-1 β also binds to IL-1RII that lacks an intracellular signaling domain and thereby serves as a high affinity decoy receptor. IL-1 β binding to IL-1RI is inhibited by the negative regulator, IL-1R antagonist (IL-1Ra). IL-1Ra binding to IL-1RI does not signal and serves to block IL-1 β signaling. IL-1 β plays critical roles in the acute phase response and sepsis (1-3).

Endotoxin

Less than 0.01 ng endotoxin/1 μ g hIL-1 β .

Purity

>98% as determined by SDS-PAGE of 6 μ g reduced (+) and non-reduced (-) recombinant hIL-1 β . All lots are greater than 98% pure.

Source / Purification

Recombinant human IL-1 β (hIL-1 β) Ala117-Ser269 (Accession #NM_000576) was produced in *E. coli* at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant IL-1 β was determined by its ability to induce IL-8 production by primary human fibroblasts. The ED₅₀ of each lot is between 5-20 pg/ml.

Background References

1. Dinarello, C.A. (1996) *Blood* 87, 2095-147.
2. Allan, S.M. et al. (2005) *Nat Rev Immunol* 5, 629-40.
3. Kramer, F. et al. (2008) *Mol Immunol* 45, 2678-89.

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