

General Information

Synonyms	Human IL1 beta; IL-1 beta; IL-1; IL-1b; IL1-BETA;IL1F2; IL-1 beta; interleukin-1 beta
Accession #	P01584
Source	Human embryonic kidney cell, HEK293-derived human IL1-beta protein
	Ala117-Ser269
Predicted Molecular weight	17.4 kDa

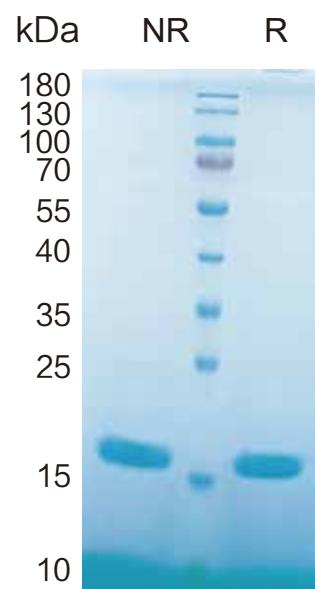
Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice.

Quality

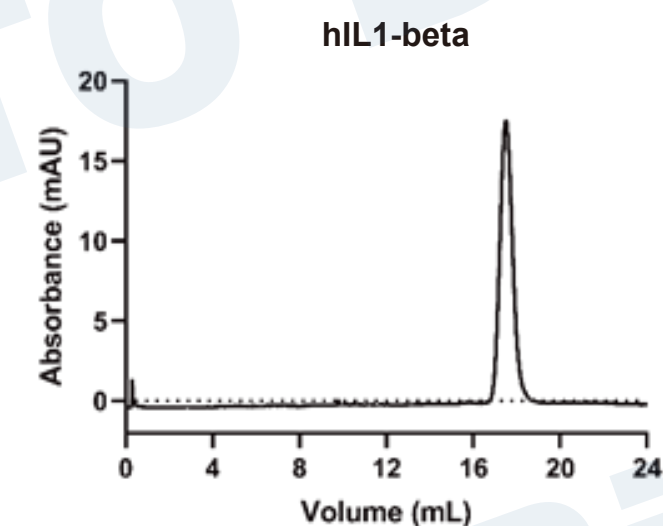
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells. The EC50 for this effect is 1-10 pg/mL.

SDS-PAGE



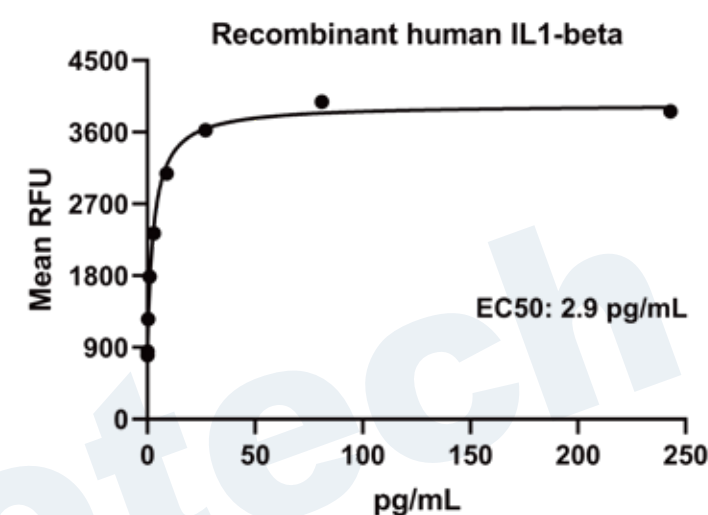
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL1-beta protein (280 nm absorbance)

Bioactivity



Recombinant human IL1-beta (Catalog # HF-1001) stimulates cell proliferation of the D10.G4.1 mouse helper T cell line.

Background

Interleukin-1 beta (IL1 beta or IL1B) also known as catabolin, is a member of the interleukin 1 cytokine family. IL1 is a name that designates two pleiotropic cytokines, IL-1 alpha (IL-1F1) and IL-1 beta (IL-1F2), which are the products of distinct genes. IL-1 alpha and IL-1 beta are structurally related polypeptides that share approximately 21% amino acid (aa) identity in human. Both proteins are produced by a wide variety of cells in response to inflammatory agents, infections, or microbial endotoxins. While IL-1 alpha and IL-1 beta are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1RI binds directly to IL-1 alpha or IL-1 beta and then associates with IL-1R accessory protein (IL-1R3/IL-1RAcP) to form a high-affinity receptor complex that is competent for signal transduction. IL-1RII has high affinity for IL-1 beta but functions as a decoy receptor and negative regulator of IL-1 beta activity. The human IL-1 beta cDNA encodes a 269 aa precursor. A 116 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 beta converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). The 17 kDa mature human IL-1 beta shares 96% aa sequence identity with rhesus and 67%-78% with canine, cotton rat, equine, feline, mouse, porcine, and rat IL-1 beta.

Reference

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