

## IL-1 beta/IL-1F2 Protein, Human, Recombinant

### General Information

Synonyms:	IL-1 beta;interleukin 1, beta;IL-1B;interleukin 1, $\beta$ ;IL1- $\beta$ ;IL-1;IL1-BETA;IL-1 $\beta$ ;IL1F2
Protein Construction:	A DNA sequence encoding the mature form of human IL1 $\beta$ (NP_000567.1) (Ala 117-Ser 269) was expressed. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P01584
Molecular Weight:	17 kDa (predicted); 17 kDa (reducing conditions)

### QC Testing

Biological Activity:	Measured by its ability to induce Interferon gamma secretion by human natural killer lymphoma NK-92 cells. The ED50 for this effect is typically 0.2-2 ng/mL.
Purity:	$\geq 95$ % as determined by SDS-PAGE. $\geq 95$ % as determined by SEC-HPLC.
Endotoxin:	$< 5$ EU/mg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	It is recommended to store recombinant proteins at $-20^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at $-80^{\circ}\text{C}$ . For reconstituted protein solutions, the solution can be stored at $-20^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>

### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Interleukin-1 beta (IL1 beta or IL1B) also known as catabolin, is a member of the interleukin 1 cytokine family. IL1 is a pleiotropic cytokine. It is involved in the inflammatory response, cell growth, and tissue repair in the cortex. The IL1 superfamily consists of three members, IL1A (IL1 alpha), IL1B (IL1 beta), and IL1 receptor antagonist (IL1Ra). In clinical, it has been reported that Interleukin (IL)-1 may influence Th1 / Th2 immune responsiveness and has been implicated in the establishment of a successful pregnancy. Proinflammatory interleukin (IL)-1 gene

polymorphisms associated with high levels of IL-1beta activity increase the risk for hypochlorhydria and distal gastric carcinoma. IL1B polymorphisms may be involved in susceptibility to SSc. Moreover, the IL2-384-G allele may be a marker for the limited phenotype of systemic sclerosis (SSc).  
Cancer Immunotherapy  
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Targeted Therapy

### Reference

- Kim SH, et al. (2008) Association of -31TC and -511 CT polymorphisms in the interleukin 1 beta (IL1B) promoter in Korean keratoconus patients. *Mol Vis.* 14:2109-16.
- Wang ZC, et al. (2002) T helper 1-type immunity to trophoblast antigens in women with a history of recurrent pregnancy loss is associated with polymorphism of the IL1B promoter region. *Genes Immun.* 3(1): 38-42.
- Mattuzzi S, et al. (2007) Association of polymorphisms in the IL1B and IL2 genes with susceptibility and severity of systemic sclerosis. *J Rheumatol.* 34(5): 997-1004.

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