

# Recombinant Human IL-1 beta Protein

Catalog No.: RP00002

Recombinant

1 Publications

## Sequence Information

| Species | Gene ID | Swiss Prot |
|---------|---------|------------|
| Human   | 3553    | P01584     |

### Tags

C-His

### Synonyms

IL-1;IL1-BETA;IL1F2;IL1 beta;IL1B

## Product Information

| Source         | Purification  |
|----------------|---|
| <i>E. coli</i> | ≥ 95 % as determined by SDS-PAGE; ≥ 95 % as determined by HPLC. |

| Calculated MW | Observed MW |
|---------------|-------------|
| 18.22 kDa     | 18 kDa      |

### Endotoxin

&lt; 0.1 EU/μg of the protein by LAL method.

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Background

Interleukin-1 beta (IL1 beta or IL1B) also known as catabolin, 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). This cytokine is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. The induction of cyclooxygenase-2 (PTGS2/COX2) by this cytokine in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity.

## Basic Information

### Description

Recombinant Human IL-1 beta Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Ala117-Ser269) of human IL-1 beta (Accession #NP\_000567.1) fused with an initial Met at the N-terminus and a 6×His tag at the C-terminus.

### Bio-Activity

1. Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells. The ED<sub>50</sub> for this effect is 6.04-24.16 pg/mL, corresponding to a specific activity of  $4.14 \times 10^7 \sim 1.66 \times 10^8$  units/mg. 2. Measured by its binding ability in a functional ELISA. Immobilized Human IL-1 beta (Catalog: RP00002) at 10 μg/mL (100 μL/well) can bind Biotinylated Human IL-1R1 (Catalog: RP01036) with a linear range of 0.002-1 μg/mL.

### Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

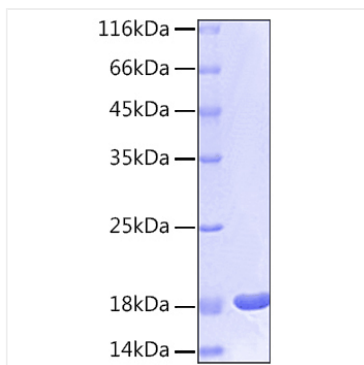
Avoid repeated freeze/thaw cycles.

## Contact

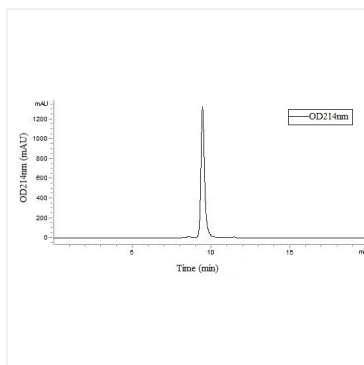
|   |  |                           |
|---|--|---------------------------|
| ☎ |  | 400-999-6126              |
| ✉ |  | cn.market@abclonal.com.cn |



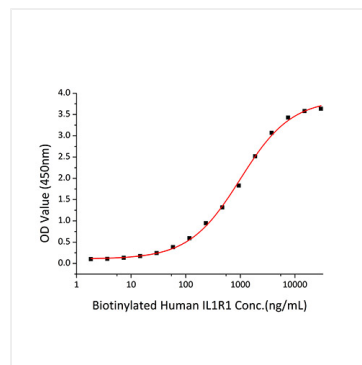
## Validation Data



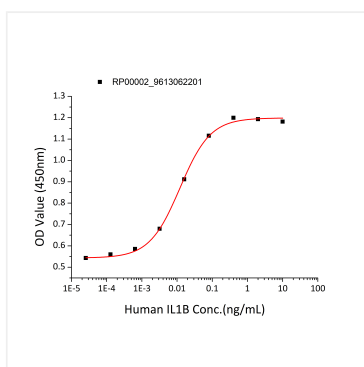
Recombinant Human IL-1 beta Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



Recombinant Human IL-1 beta Protein is greater than 95% as determined by SEC-HPLC.



Immobilized Human IL-1 beta (Catalog: RP00002) at 10  $\mu\text{g/mL}$  (100  $\mu\text{L/well}$ ) can bind Biotinylated Human IL-1R1 (Catalog: RP01036) with a linear range of 0.002-1  $\mu\text{g/mL}$ .



Recombinant Human IL-1 beta promotes the proliferation of D10.G4.1 mouse helper T cells. The  $\text{ED}_{50}$  for this effect is 6.04-24.16  $\text{pg/mL}$ , corresponding to a specific activity of  $4.14 \times 10^7 \sim 1.66 \times 10^8$  units/mg.