

Recombinant Mouse IL-1 beta Protein

Catalog No.: RP01340 Recombinant 7 Publications

Sequence Information

Species **Gene ID** **Swiss Prot**
 Mouse 16176 P10749

Tags

C-His

Synonyms

IL-1 beta;IL-; IL-1b; IL-1beta;IL1b

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 Mouse IL-1 beta Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Val118-Ser269) of mouse IL-1 beta (Accession #NP_032387.1) fused with 6×His tag at the C-terminus.

Bio-Activity

1. Measured by its binding ability in a functional ELISA. Immobilized Mouse IL1B at 10 µg/mL (100 µL/well) can bind Human IL1R2 with a linear range of 0.03125-0.8036 µg/mL. 2. Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells. The ED₅₀ for this effect is 42.1-168.4 pg/mL, corresponding to a specific activity of 5.94×10⁶-2.37×10⁷units/mg.

Shipping

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.

Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

Product Information

Source **Purification**

E. coli ≥ 95 % as determined by SDS-PAGE.

Calculated MW **Observed MW**

18.23 kDa 19-20 kDa

Endotoxin

< 0.1 EU/µg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4.

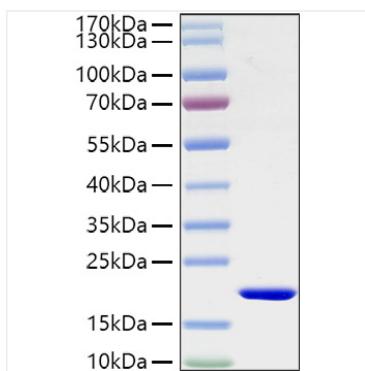
Reconstitution

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.

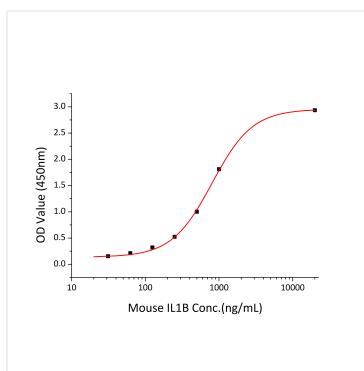
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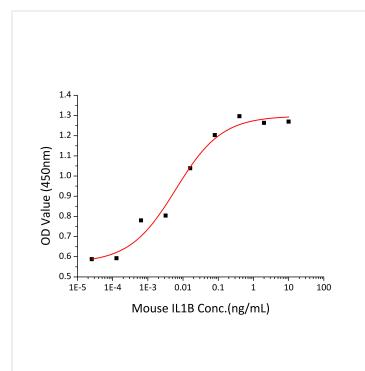
Validation Data



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



Immobilized Mouse IL1B at 10 μ g/mL (100 μ L/well) can bind Human IL1R2 with a linear range of 0.03125-0.8036 μ g/mL.



Recombinant Mouse IL-1B promotes the proliferation of D10.G4.1 mouse helper T cells. The ED_{50} for this effect is 3.10-12.40 pg/mL, corresponding to a specific activity of $8.06 \times 10^7 \sim 3.23 \times 10^8$ units/mg..