

# Rabbit IL-1 beta / IL1B Protein

Catalog Number: 65004-TNAE



Sino Biological Inc.

Biological Solution Specialist

## General Information

### Gene Name Synonym:

IL1B

### Protein Construction:

A DNA sequence encoding the rabbit IL1B (NP\_001075670.1) (Ala117-Ser268) was expressed with with an initial Met at the N-terminus.

**Source:** Rabbit

**Expression Host:** E. coli

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

## Bio-Activity

**Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells. Symons, J.A. et al. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. et al. (eds): IRL Press. 272. The ED50 for this effect is typically 1-5 pg/mL.**

## Endotoxin:

Please contact us for more information.

## Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

## Molecular Mass:

The recombinant rabbit IL1B consists of 153 amino acids and predicts a molecular mass of 17.5 KDa. It migrates as an approximately 19 KDa band in SDS-PAGE under reducing conditions.

## Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

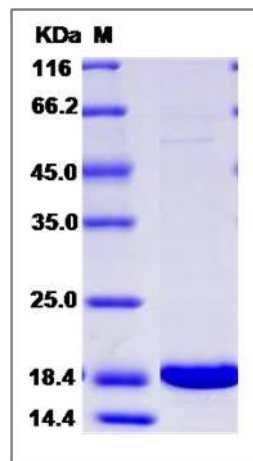
## Usage Guide

### Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

## SDS-PAGE:



## Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## Protein Description

Interleukin 1 (IL-1) is a family of polypeptide cytokines consisting of two agonists, IL-1alpha (IL-1F1) and IL-1beta (IL-1F2) encoded by two distinct genes and perform identical biological functions. IL1 $\alpha$  and IL1 $\beta$  binds directly to a high-affinity receptor complex of IL1 RI and IL1 R AcP to initiate the signal transduction. IL1RII also binds to IL1 $\beta$  with high affinity, but on contrast, IL1 $\beta$  activity is inhibited since IL1RII exists as a decoy receptor and negative regulator. IL1R antagonist (IL1RA), also a member of IL-1 family, is identified to interact with IL1R1, preventing IL1 $\alpha$  and IL1 $\beta$  to exert actions. IL1 $\beta$  is produced by a variety of cell types, and capable of stimulating thymocyte proliferation by inducing IL-2 release, B-cell maturation and proliferation, and fibroblast growth factor activity. Also identified as endogenous pyrogens, IL-1 are involved in the immune and inflammatory responses, and are reported to stimulate the release of prostaglandin and collagenase. IL1 $\beta$  is encoded as a inactive precursor of 269 amino acids with a 116 aa propeptide which is cleaved intracellularly by the cysteine protease, IL1 $\beta$  converting enzyme (Caspase1/ICE) to generate the biologically active cytokine. Lacking of a specific hydrophobic segment suggests that IL-1 is released by damaged cells or is secreted by a mechanism differing from that used for other secretory proteins.

## References

1. March C J. et al., 1985, Nature. 315: 641-7.
2. Bensi G. et al., 1987, Gene. 52: 95-101.
3. Mizutani H. et al., 1991, J Exp Med. 174: 821-5.
4. Clore G M. et al., 1991, Biochemistry. 30: 2315-23.
5. Vigers G P A. et al., 1997, Nature. 386: 190-4.

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