

Rat IL-1 beta / IL1B Protein (pro form, His Tag)

Catalog Number: 80023-R07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

IL1B

Protein Construction:

A DNA sequence encoding the pro form of rat IL1B (Q63264-1) (Met 1-Ser 268) was fused with a polyhistidine tag at the N-terminus.

Source: Rat

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

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 rat IL1B comprises 279 amino acids and predicts a molecular mass of 32.1 kDa. The apparent molecular mass of the rat IL1B is approximately 35 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 500mM NaCl, pH 8.0

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.

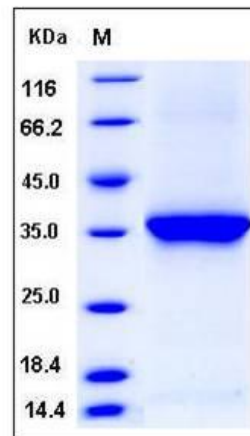
Usage Guide

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 beta, also known as IL-1 beta, and IL1B, is a secreted protein which belongs to the IL-1 family. IL-1 proteins are involved in the inflammatory response, being identified as endogenous pyrogens, and are reported to stimulate the release of prostaglandin and collagenase from synovial cells. IL-1 / Interleukin-1 stimulates thymocyte proliferation by inducing IL-2 release, B-cell maturation and proliferation, and fibroblast growth factor activity. IL-1 beta / IL1B 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. IL-1 beta / IL1B is a potent pro-inflammatory cytokine. It is directly up-regulated by radiation and is known to regulate other inflammation-related molecules, such as the matrix metalloproteinases (MMPs) and their endogenous inhibitors (TIMPs). IL-1 beta / IL1B plays a critical role in radiation-induced fibrosis and the increased MMPs fail to block the IL1-related collagen accumulation. The induction of cyclooxygenase-2 (PTGS2 / COX2) by IL-1 beta / IL1B in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity.

References

1. Liu, W. et al., 2006, Radiat Res. 165 (2): 181-91.
2. Mattuzzi, S. et al., 2007, J Rheumatol. 34 (5): 997-1004.
3. van Minkelen, R. 2007, et al., Arterioscler Thromb Vasc Biol. 27 (6): 1486-91.
4. Kim SH, et al., 2008, Mol. Vis. 14: 2109-16.
5. Levy, H. et al., 2009, Pediatr Pulmonol. 44 (6): 580-93.

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