

DESCRIPTION

Source *E. coli*-derived human IL-1 beta/IL-1F2 protein
Ala117-Ser269
Accession # NP_000567

N-terminal Sequence Analysis Ala117 & Pro118

Predicted Molecular Mass 17 kDa

SPECIFICATIONS

SDS-PAGE 17 kDa, reducing conditions

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 <12 pg/mL.

The specific activity of recombinant human IL-1 β is approximately 1.4 x 10⁵ IU/ μ g, which is calibrated against recombinant human IL-1 β WHO International Standard (NIBSC code: 86/680).

Endotoxin Level <0.10 EU per 1 μ g of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 μ m filtered solution in PBS with BSA as a carrier protein. *1 mg pack size (01M) is supplied as a 0.2 μ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 50-200 μ g/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

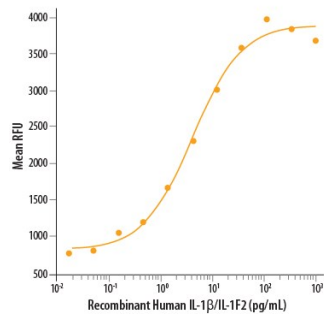
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

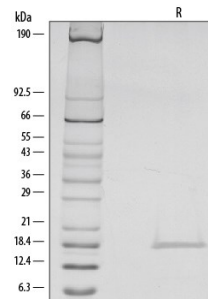
DATA

Bioactivity



Recombinant Human IL-1 β /IL-1F2 (Catalog # 201-LB) stimulates cell proliferation of the D10.G4.1 mouse helper T cell line. The ED₅₀ for this effect is <12 pg/mL.

SDS-PAGE



1 μ g/lane of Recombinant Human IL-1 β /IL-1F2 was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 17 kDa.

BACKGROUND

IL-1 is a name that designates two pleiotropic cytokines, IL-1 α (IL-1F1) and IL-1 β (IL-1F2), which are the products of distinct genes. IL-1 α and IL-1 β are structurally related polypeptides that share approximately 21% amino acid (aa) identity in human. Both proteins are produced by a wide variety of cells in response to inflammatory agents, infections, or microbial endotoxins. While IL-1 α and IL-1 β are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1 RI binds directly to IL-1 α or IL-1 β and then associates with IL-1 R accessory protein (IL-1 R3/IL-1 R AcP) to form a high-affinity receptor complex that is competent for signal transduction. IL-1 RII has high affinity for IL-1 β but functions as a decoy receptor and negative regulator of IL-1 β activity. IL-1ra functions as a competitive antagonist by preventing IL-1 α and IL-1 β from interacting with IL-1 RI (1-4). The human IL-1 β cDNA encodes a 269 aa precursor. A 116 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 β -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). The 17 kDa mature human IL-1 β shares 96% aa sequence identity with rhesus and 67%-78% with canine, cotton rat, equine, feline, mouse, porcine, and rat IL-1 β .

References:

1. Allan, S.M. *et al.* (2005) *Nat. Rev. Immunol.* **5**:629.
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3. Kornman, K.S. (2006) *Am. J. Clin. Nutr.* **83**:475S.
4. Isoda, K. and F. Ohsuzu (2006) *J. Atheroscler. Thromb.* **13**:21.
5. March, C.J. *et al.* (1985) *Nature* **315**:641.
6. Auron, P.E. *et al.* (1984) *Proc. Natl. Acad. Sci.* **81**:7907.
7. Martinon, F. and J. Tschopp (2007) *Cell Death Differ.* **14**:10.

PRODUCT SPECIFIC NOTICES

This product is covered by U.S. patent: 5,681,933.