



Recombinant Human IL-1 β /IL-1F2

Catalogue Number: REC105

Specifications and Use

Source

- A DNA sequence encoding mature human IL-1 β (Ala117 – Ser269; Accession NM_000576) was expressed in *E.coli*.

Molecular Mass

- 18 kDa, reducing condition

Purity

- 90%, as determined by SDS-PAGE and visualized by silver stain.

Endotoxin Level

- < 1.0 EU per 1 μ g of the protein as determined by LAL method.

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 < 12 pg/mL.

Formulation

- Supplied as lyophilized powder.
- Reconstitute in PBS with 0.1% BSA
- Centrifuge the vial before opening to prevent loss of the powder.

Storage

- Samples are stable up to 1 year from date of receipt at -20°C.
- Upon thawing, this protein can be stored under sterile conditions at 2-8°C for two weeks or at -70°C in a manual defrost freezer for three months without detectable loss of activity.
- Avoid repeated freeze-thaw cycles. Samples are recommended to be aliquot in small volumes and frozen for multiple uses.

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-1RI binds directly to IL-1 α or IL-1 β and then associates with IL-1R accessory protein (IL-1R3/IL-1R AcP) to form a highaffinity receptor complex that is competent for signal transduction. IL-1RII 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-1RI (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 (Caspase1/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

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