



## Macrophage Inflammatory Protein-1 beta (CCL4), human recombinant (rHuMIP-1b)

**Catalog No:** 94845  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** Small inducible cytokine A4, CCL4, Macrophage inflammatory protein 1-beta, MIP-1- beta, MIP-1-beta(1-69), T-cell activation protein 2, ACT-2, PAT 744, H400, SIS-gamma, Lymphocyte activation gene 1 protein, LAG-1, HC21, G-26 T-lymphocyte-secreted protein, chemokine (C-C motif) ligand 4, ACT2, G-26, LAG1, MIP1B, SCYA4, AT744.1, MGC104418, MGC126025, MGC126026

### Background

Macrophage Inflammatory Proteins belong to the family of chemotactic cytokines known as chemokines. In humans, there are two major forms, MIP-1a and MIP-1b that are now also named CCL3 and CCL4. Both factors are produced by macrophages after they are stimulated with bacterial endotoxins. MIP-1a and MIP-1b activate human granulocytes (neutrophils, eosinophils and basophils) which can lead to acute neutrophilic inflammation. MIP-1a and MIP-1b induce synthesis and release of other pro-inflammatory cytokines such as interleukin-1 (IL-1), IL-6 and TNF-alpha from fibroblasts and macrophages. CCL3 and CCL4 genes are both located on human chromosome 17.

### Description

Macrophage Inflammatory protein-1 beta human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 69 amino acids and having a molecular mass of 7620 Dalton. CCL4 is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

Lyophilized from a concentrated (1 mg/ml) solution in water containing no additives.

### Solubility

It is recommended to reconstitute the lyophilized MIP-1b in sterile 18 MΩ-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

### Stability

Lyophilized MIP-1b, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CCL4 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1 % HSA or BSA). Please prevent freeze-thaw cycles.

### Purity

Greater than 99.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

### Amino Acid Sequence

The sequence of the first five N-terminal amino acids was determined and was found to be, Ala-Pro-Met-Gly-Ser.

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**Activity**

The Activity is calculated by the ability to chemoattract Human blood monocytes using a concentration of 5 - 20 ng/ml corresponding to a specific activity of 50,000 - 200,000 IU/mg.

**Usage**

**This product is offered by Biomol for research purposes only. Not for diagnostic purposes or human use. It may not be resold or used to manufacture commercial products without written approval of Biomol GmbH.**