



Macrophage Inflammatory Protein-1 alpha (CCL3), human recombinant (rHuMIP-1a)

Catalog No: 57278
Lot No: XXXXX
Source: *E. coli*
Synonyms: Small inducible cytokine A3, CCL3, Macrophage inflammatory protein 1-alpha, MIP-1-alpha, Tonsillar lymphocyte LD78 alpha protein, G0/G1 switch regulatory protein 19-1, G0S19-1 protein, SIS-beta, PAT 464.1, chemokine (C-C motif) ligand 3, MIP1A, SCYA3, G0S19-1, LD78ALPHA

Background

Macrophage Inflammatory Proteins (MIP) 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 officially named CCL3 and CCL4 respectively. Both are major factors produced by macrophages after they are stimulated with bacterial endotoxins. They activate human granulocytes (neutrophils, eosinophils and basophils) which can lead to acute neutrophilic inflammation. They also induce the synthesis and release of other pro-inflammatory cytokines such as interleukin 1 (IL-1), IL-6 and TNF- α from fibroblasts and macrophages. The genes for CCL3 and CCL4 are both located on human chromosome 17.

Description

Macrophage Inflammatory protein-1 alpha human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 70 amino acids and having a molecular mass of 7820 Dalton. MIP-1a is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized from 0.55 mg/ml solution containing no additives.

Solubility

It is recommended to reconstitute the lyophilized MIP-1a in sterile 18 M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized MIP-1a, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CCL3 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 98.0% 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-Ser-Leu-Ala-Ala.

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Activity

The Activity is calculated by the ability of chemo-attraction of Human monocytes using 1 - 10 ng/ml corresponding to a specific activity of 100,000 - 1,000,000 IU/mg.

Usage

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