



Product Data Sheet

Cat # RP-1044

Recombinant Rat Macrophage Inflammatory protein-1 alpha (CCL3)

Size: 5 ug

Macrophage Inflammatory Proteins (MIP) belongs to the family of chemotactic cytokines known as chemokines. In humans, there are two major forms, MIP-1 α and MIP-1 β 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.

Source: *Escherichia Coli*. Macrophage Inflammatory Protein-1 alpha Rat Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 69 amino acids and having a molecular mass of 7853 Dalton. The MIP-1a is purified by proprietary chromatographic techniques. The protein was lyophilized from 1 mg/ml solution containing no additives.

Applications and Suggested Dilutions: Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. It is recommended to reconstitute the lyophilized Macrophage Inflammatory Protein-1a in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions. Users must optimize the appropriate concentration and conditions for each assay.

Storage and Stability: Lyophilized MIP-1a although stable at room temperature for 3 weeks, should be stored desiccated below -18 $^{\circ}$ C. Upon reconstitution CCL3 should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). If supplied in powder then reconstitute it in 100 ul water for 1 mg/ml stock and store in liquid at 4 $^{\circ}$ C for ~1 week or aliquots in suitable size and store at -20 $^{\circ}$ C for long term storage.
Please prevent freeze-thaw cycles.

Biological Activity: The Activity is calculated by the ability to chemoattract of rat peritoneal macrophages using a conc. of 60 ng/ml.

Protein content: Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 1.38 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a calibrated solution of MIP-1a as a Reference Standard.

Usage:

This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals

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