

## Recombinant Human Macrophage Inflammatory protein-4 (CCL18)

<b>Alternate names:</b>	CCL18, MIP4
<b>Catalog No.:</b>	PA1170XC
<b>Quantity:</b>	1 mg
<b>Concentration:</b>	1.0 mg/ml
<b>Species:</b>	Human
<b>Source:</b>	E. coli, E.coli
<b>Format:</b>	<b>State:</b> Sterile Filtered White lyophilized (freeze-dried) powder. <b>Purity:</b> >98% Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Anion-exchange FPLC. (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained. <b>Buffer System:</b> Lyophilized from a concentrated solution containing no additives. <b>Endotoxin Level:</b> Less than 0.1 ng/μg (IEU/μg) of Recombinant Human MIP-4. <b>Dimers:</b> Less than 1% as determined by silver-stained SDS-PAGE gel analysis. <b>Reconstitution:</b> It is recommended to reconstitute the lyophilized MIP-4 in sterile 18MO-cm H2O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.
<b>Description:</b>	Recombinant Human Macrophage Inflammatory Protein-4 produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 69 amino acids. Human MIP-4 is purified by proprietary chromatographic techniques. <b>AA Sequence:</b> The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Gln-Val-Gly-Thr. <b>Biological Activity:</b> Human Macrophage Inflammatory Protein-4 is fully biologically active when compared to standard. The Activity is calculated by the ability to chemoattract Human T lymphocytes at 1.0-10.0 ng/ml. Molecular weight: 7813 Dalton. <b>Molecular weight:</b> 8 kDa
<b>Add. Information:</b>	MIP-4 protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm . 2. Analysis by RP-HPLC, using a calibrated solution of Recombinant Human MIP-4 as a Reference Standard.
<b>Storage:</b>	Lyophilized MIP-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution MIP-4 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 avoid freeze-thaw cycles.

- General Readings:**
1. Pochetuhen K, Luzina IG, Locketell V, Choi J, Todd NW, Atamas SP. Complex regulation of pulmonary inflammation and fibrosis by CCL18. *Am J Pathol.* 2007 Aug;171(2):428-37. Epub 2007 Jun 14. PubMed PMID: 17569779.
  2. Prasse A, Pechkovsky DV, Toews GB, Schäfer M, Eggeling S, Ludwig C, et al. CCL18 as an indicator of pulmonary fibrotic activity in idiopathic interstitial pneumonias and systemic sclerosis. *Arthritis Rheum.* 2007 May;56(5):1685-93. PubMed PMID: 17469163.
  3. van Lieshout AW, Fransen J, Flendrie M, Eijsbouts AM, van den Hoogen FH, van Riel PL, et al. Circulating levels of the chemokine CCL18 but not CXCL16 are elevated and correlate with disease activity in rheumatoid arthritis. *Ann Rheum Dis.* 2007 Oct;66(10):1334-8. Epub 2007 Mar 9. PubMed PMID: 17350968.
  4. Momohara S, Okamoto H, Iwamoto T, Mizumura T, Ikari K, Kawaguchi Y, et al. High CCL18/PARC expression in articular cartilage and synovial tissue of patients with rheumatoid arthritis. *J Rheumatol.* 2007 Feb;34(2):266-71. PubMed PMID: 17304652.
  5. van Breemen MJ, Bleijlevens B, de Koster CG, Aerts JM. Limitations in quantitation of the biomarker CCL18 in Gaucher disease blood samples by surface-enhanced laser desorption/ionization time-of-flight mass spectrometry. *Biochim Biophys Acta.* 2006 Oct;1764(10):1626-32. Epub 2006 Aug 22. PubMed PMID: 17010683.
  6. van Lieshout AW, van der Voort R, le Blanc LM, Roelofs MF, Schreurs BW, van Riel PL, et al. Novel insights in the regulation of CCL18 secretion by monocytes and dendritic cells via cytokines, toll-like receptors and rheumatoid synovial fluid. *BMC Immunol.* 2006 Sep 19;7:23. PubMed PMID: 16984635.

**Pictures:** Precursor- Protein structure and amino acid sequence: PA1170XCME0607

