

Cytokines

Mouse Recombinant MIP-1 beta (CCL4)

Macrophage inflammatory protein-1
beta



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Catalog # 78091
78091.1

10 µg
100 µg

Product Description

Macrophage inflammatory protein-1 beta (MIP-1 beta), also known as CCL4, is a member of the CC family of chemokines and is most closely related to CCL3 (MIP-1 alpha). Cellular sources of MIP-1 beta include activated leukocytes (monocytes, T and B cells), brain endothelial cells, and smooth muscle cells (Lukacs et al.; Menten et al.). MIP-1 beta, MIP-1 alpha, and RANTES have been shown to be major HIV-suppressive factors, possibly through the interactions of these chemokines with the receptor CCR5 on CD4+ T cells, which is also a major receptor for HIV entry into CD4+ T cells (Cocchi et al.; Menten et al.). MIP-1 beta attracts a variety of immune cells to sites of microbial infection. In addition to its chemotactic functions, MIP-1 beta induces the release of proinflammatory cytokines, mast cell degranulation, and NK cell activation (Schall et al.). In mice, recruitment of regulatory T cells to B cells and antigen presenting cells by MIP-1 beta plays a central role in the initiation of T cell and humoral responses, and it has been shown that depletion of regulatory T cells or MIP-1 beta results in deregulated humoral responses and production of autoantibodies (Bystry et al.).

Product Information

Alternative Names: ACT-2, Immune activation protein 2, LAG-1, Lymphocyte activation gene 1 protein, MIP-1b, Protein H400, SCYA2, SCYA4, Small-inducible cytokine A4, T-cell activation protein 2

Accession Number: Q5QNV9

Amino Acid Sequence: APMGSDPPTS CCFSYTSRQL HRSFVMDYYE TSSLCSKPAV VFLTKRGRQI CANPSEPWWT EYMSDELELN

Predicted Molecular Mass: 7.8 kDa

Species: Mouse

Cross Reactivity: Human, Rat

Formulation: Lyophilized from a sterile filtered aqueous solution containing 0.1% trifluoroacetic acid.

Source: E. coli

Specifications

Activity: Biological activity was detectable at ≤ 100 ng/mL as determined by a cell migration assay of THP-1 cells.

Purity: ≥ 95 %

Endotoxin Level: Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

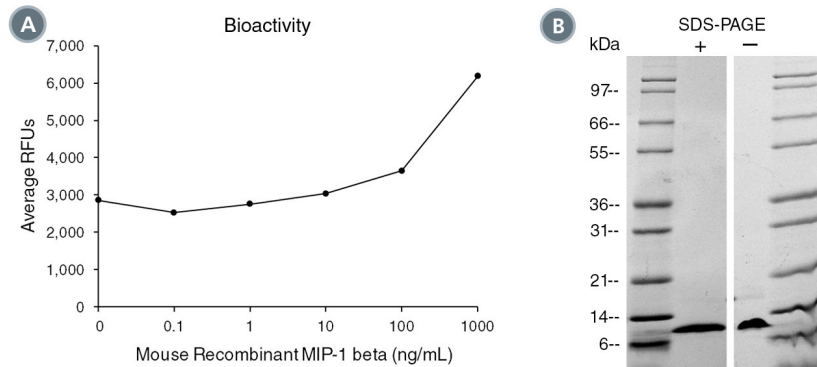
Preparation and Storage

Storage: Store at -20°C to -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

Data



(A) The biological activity of Mouse Recombinant MIP-1 beta (CCL4) was tested by its ability to induce chemotaxis of THP-1 cells. Cell migration was measured after 45 min using a fluorometric assay method. Increase in migration over basal level was seen starting at 100 ng/mL.

(B) 1 μ g of Mouse Recombinant MIP-1 beta (CCL4) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant MIP-1 beta (CCL4) has a predicted molecular mass of 7.8 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Bystry RS et al. (2001) B cells and professional APCs recruit regulatory T cells via CCL4. *Nat Immunol* 2(12): 1126–32.
- Cocchi F et al. (1995) Identification of RANTES, MIP-1 alpha, and MIP-1 beta as the major HIV-suppressive factors produced by CD8+ T cells. *Science* 270(5243): 1811–5.
- Lukacs NW et al. (1995) Stimulus and cell-specific expression of C-X-C and C-C chemokines by pulmonary stromal cell populations. *Am J Physiol* 268(5 Pt 1): L856–61.
- Menten P et al. (2002) Macrophage inflammatory protein-1. *Cytokine Growth Factor Rev* 13(6): 455–81.
- Schall TJ et al. (1993) Human macrophage inflammatory protein alpha (MIP-1 alpha) and MIP-1 beta chemokines attract distinct populations of lymphocytes. *J Exp Med* 177(6): 1821–6.

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