Cytokines

Mouse Recombinant MIP-1 beta (CCL4)

Macrophage inflammatory protein-1 beta

Catalog #	78091	10 µg
	78091.1	100 µg

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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 and 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 CANPSEPWVT EYMSDLELN
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

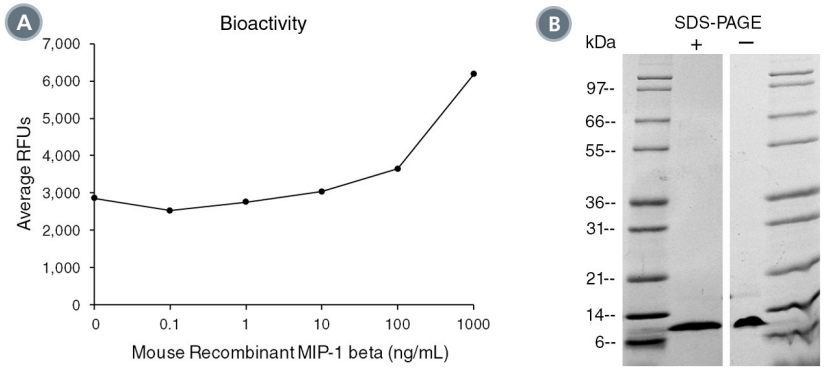
Specifications

Activity:	Biological activity was detectable at ≤ 100 ng/mL as determined by a cell migration assay using THP-1 cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte 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. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

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 minutes using a fluorometric assay method. Increase in migration over basal level was seen starting at 100 ng/mL.
(B) 1 µg 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

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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.
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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.