

# MIP-1 $\beta$ (B-7): sc-393441

## BACKGROUND

Chemokines are members of a superfamily of small inducible, secreted, pro-inflammatory cytokines. Members of the chemokine family exhibit 20-50% homology in their predicted amino acid sequences and are divided into four subfamilies. In C-C (or  $\beta$ ) subfamily, the first two cysteines are adjacent. C-C chemokines are chemoattractants and activators for monocytes and T cells. C-C subfamily members include macrophage inflammatory protein (MIP)-1 $\alpha$ , MIP-1 $\beta$ , MIP-2, MIP-3 $\alpha$ , MIP-3 $\beta$ , MIP-4, HCC-1, MIP-5 (or HCC-2), RANTES, MCP-1/2/3 (and the murine homologs JE and MARC), I-309, murine C10 and TCA3. Research has shown that MIP-1 $\beta$  is more selective than MIP-1 $\alpha$ , primarily attracting CD4<sup>+</sup> T lymphocytes, with a preference for T cells of the naive phenotype. MIP-1 $\alpha$  is a more potent lymphocyte chemoattractant than MIP-1 $\beta$  and exhibits a broader range of chemoattractant specificities. It has been suggested that CD8<sup>+</sup> T lymphocytes are involved in the control of HIV infection *in vivo* by the release of HIV-suppressive factors (HIV-SF). MIP-1 $\alpha$  has been identified as one of the major HIV-SFs produced by CD8<sup>+</sup> T cells, along with MIP-1 $\beta$  and RANTES. Recombinant human MIP-1 $\alpha$  acts as an inhibitor of different strains of HIV-1, HIV-2 and SIV infection in a dose-dependent manner.

## CHROMOSOMAL LOCATION

Genetic locus: CCL4 (human) mapping to 17q12; Ccl4 (mouse) mapping to 11 C.

## SOURCE

MIP-1 $\beta$  (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 69-92 at the C-terminus of MIP-1 $\beta$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MIP-1 $\beta$  (B-7) is available conjugated to agarose (sc-393441 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393441 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393441 PE), fluorescein (sc-393441 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393441 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393441 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393441 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393441 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393441 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393441 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393441 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

Store at 4<sup>°</sup> C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

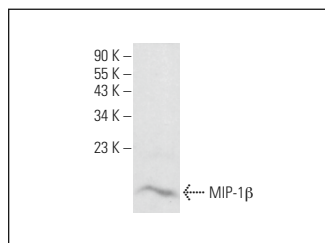
MIP-1 $\beta$  (B-7) is recommended for detection of MIP-1 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MIP-1 $\beta$  siRNA (h): sc-43932, MIP-1 $\beta$  siRNA (m): sc-45996, MIP-1 $\beta$  shRNA Plasmid (h): sc-43932-SH, MIP-1 $\beta$  shRNA Plasmid (m): sc-45996-SH, MIP-1 $\beta$  shRNA (h) Lentiviral Particles: sc-43932-V and MIP-1 $\beta$  shRNA (m) Lentiviral Particles: sc-45996-V.

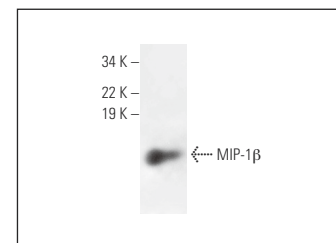
Molecular Weight of MIP-1 $\beta$ : 8 kDa.

Positive Controls: U266 whole cell lysate: sc-364800.

## DATA



MIP-1 $\beta$  (B-7): sc-393441. Western blot analysis of MIP-1 $\beta$  expression in U266 whole cell lysate.



MIP-1 $\beta$  (B-7): sc-393441. Western blot analysis of mouse recombinant MIP-1 $\beta$ .

## SELECT PRODUCT CITATIONS

- Ee, M.T., et al. 2016. Leukotriene B4 mediates macrophage influx and pulmonary hypertension in bleomycin-induced chronic neonatal lung injury. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 311: L292-L302.
- Chen, Z., et al. 2018. *Mycobacterium marinum* infection in zebrafish and microglia imitates the early stage of tuberculous meningitis. *J. Mol. Neurosci.* 64: 321-330.
- Joung, S., et al. 2021. Downregulation of microRNA-495 alleviates IL-1 $\beta$  responses among chondrocytes by preventing SOX9 reduction. *Yonsei Med. J.* 62: 650-659.
- Chang, T.T., et al. 2022. CCL4 deletion accelerates wound healing by improving endothelial cell functions in diabetes mellitus. *Biomedicine* 10: 1963.
- Chang, T.T., et al. 2023. Macrophage inflammatory protein-1 $\beta$  as a novel therapeutic target for renal protection in diabetic kidney disease. *Biomed. Pharmacother.* 161: 114450.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.