

# MIP-1 $\alpha$ (C-5): sc-365691

## 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.

## REFERENCES

- Zipfel, P.F., et al. 1989. Mitogenic activation of human T cells induces two closely related genes which share structural similarities with a new family of secreted factors. *J. Immunol.* 142: 1582-1590.
- Schall, T.J., 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: 1821-1826.

## CHROMOSOMAL LOCATION

Genetic locus: Ccl3 (mouse) mapping to 11 C.

## SOURCE

MIP-1 $\alpha$  (C-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-92 at the C-terminus of MIP-1 $\alpha$  of mouse origin.

## PRODUCT

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

MIP-1 $\alpha$  (C-5) is available conjugated to agarose (sc-365691 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365691 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365691 PE), fluorescein (sc-365691 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365691 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365691 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365691 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365691 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365691 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365691 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365691 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

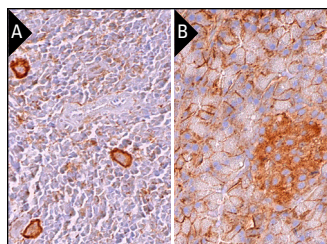
## APPLICATIONS

MIP-1 $\alpha$  (C-5) is recommended for detection of MIP-1 $\alpha$  of mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (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 $\alpha$  siRNA (m): sc-44722, MIP-1 $\alpha$  shRNA Plasmid (m): sc-44722-SH and MIP-1 $\alpha$  shRNA (m) Lentiviral Particles: sc-44722-V.

Molecular Weight of MIP-1 $\alpha$ : 10 kDa.

## DATA



MIP-1 $\alpha$  (C-5): sc-365691. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat bone marrow tissue showing cytoplasmic and membrane staining of subset of hematopoietic cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat pancreas tissue showing cytoplasmic and membrane staining of exocrine glandular cells and cytoplasmic staining of Islets of Langerhans (B).

## SELECT PRODUCT CITATIONS

- Chen, X.J., et al. 2017. JNK signaling is required for the MIP-1 $\alpha$ -associated regulation of Kupffer cells in the heat stroke response. *Mol. Med. Rep.* 16: 2389-2396.
- Zha, D., et al. 2019. Telmisartan attenuates diabetic nephropathy progression by inhibiting the dimerization of angiotensin type-1 receptor and adiponectin receptor-1. *Life Sci.* 221: 109-120.
- Ren, R., et al. 2019. Inflammation promotes progression of pancreatic cancer through WNT/ $\beta$ -catenin pathway-dependent manner. *Pancreas* 48: 1003-1014.

## 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.

## PROTOCOLS

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