SANTA CRUZ BIOTECHNOLOGY, INC.

MIP-1α (E-2): sc-393899

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chemokines are members of a superfamily of small inducible, secreted, pro-inflammatory cytokines. Members of the chemokine family exhibit 20 to 50% homology in their predicted amino acid sequences and are divided into four subfamilies. In C-C (or β) 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)-1α, MIP-1β, MIP-2, MIP-3α, MIP-3β, 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-1β is more selective than MIP-1α, primarily attracting $CD4^+$ T lymphocytes, with a preference for T cells of the naive phenotype. MIP-1α is a more potent lymphocyte chemoattractant than MIP-1β and exhibits a broader range of chemoattractant specificities. It has been suggested that $CD8^+$ T lymphocytes are involved in the control of HIV infection *in vivo* by the release of HIV-suppressive factors (HIV-SF). MIP-1α has been identified as one of the major HIV-SFs produced by $CD8^+$ T cells, along with MIP-1β and RANTES. Recombinant human MIP-1α acts as an inhibitor of different strains of HIV-1, HIV-2 and SIV infection in a dose-dependent manner.

REFERENCES

1. 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.
2. Widmer, U., et al. 1993. Genomic cloning and promoter analysis of macrophage inflammatory protein (MIP)-2, MIP-1α and MIP-1β, members of the chemokine superfamily of proinflammatory cytokines. J. Immunol. 150: 4996-5012.
3. Schall, T.J., et al. 1993. Human macrophage inflammatory protein α (MIP-1α) and MIP-1β chemokines attract distinct populations of lymphocytes. J. Exp. Med. 177: 1821-1826.
4. Uguccione, M., et al. 1995. Actions of the chemotactic cytokines MCP-1, MCP-2, MCP-3, RANTES, MIP-1α) and MIP-1β on human monocytes. Eur. J. Immunol. 25: 64-68.
5. Cocchi, F., et al. 1995. Identification of RANTES, MIP-1α and MIP-1β as the major HIV-suppressive factors produced by $CD8^+$ T cells. Science 270: 1811-1815.
6. Cook, D.N. 1996. The role of MIP-1α in inflammation and hematopoiesis. J. Leukoc. Biol. 59: 61-66.

CHROMOSOMAL LOCATION

Genetic locus: CCL3 (human) mapping to 17q12.

SOURCE

MIP-1α (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 23-54 at the N-terminus of MIP-1α of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393899 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MIP-1α (E-2) is recommended for detection of MIP-1α of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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-1α siRNA (h): sc-43933, MIP-1α shRNA Plasmid (h): sc-43933-SH and MIP-1α shRNA (h) Lentiviral Particles: sc-43933-V.

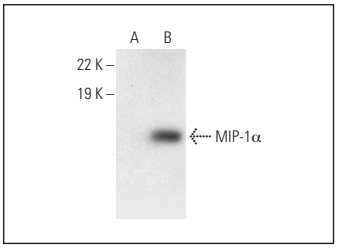
Molecular Weight of MIP-1α: 10 kDa.

Positive Controls: MIP-1α (h): 293T Lysate: sc-114143.

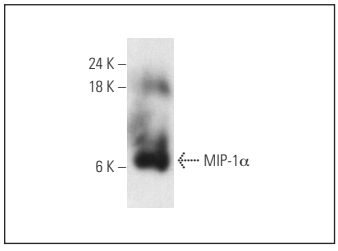
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MIP-1α (E-2): sc-393899. Western blot analysis of MIP-1α expression in non-transfected: sc-117752 (**A**) and human MIP-1α transfected: sc-114143 (**B**) 293T whole cell lysates.



MIP-1α (E-2): sc-393899. Western blot analysis of human recombinant MIP-1α.

RESEARCH USE

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