SANTA CRUZ BIOTECHNOLOGY, INC.

MIP-1α (D-3): sc-166942

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 20-50% homology in their predicted amino acid sequences and are divided into four subfamilies. In the 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. Schall, T.J., et al. 1993. Human macrophage inflammatory protein ? (MIP-1?) and MIP-1? chemokines attract distinct populations of lymphocytes. J. Exp. Med. 177: 1821-1826.

CHROMOSOMAL LOCATION

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

SOURCE

MIP-1α (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 70-95 at the C-terminus of MIP-1α of human origin.

PRODUCT

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

MIP-1α (D-3) is available conjugated to agarose (sc-166942 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166942 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166942 PE), fluorescein (sc-166942 FITC), Alexa Fluor® 488 (sc-166942 AF488), Alexa Fluor® 546 (sc-166942 AF546), Alexa Fluor® 594 (sc-166942 AF594) or Alexa Fluor® 647 (sc-166942 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166942 AF680) or Alexa Fluor® 790 (sc-166942 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166942 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

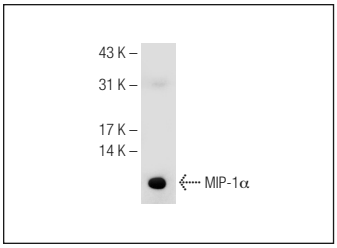
APPLICATIONS

MIP-1α (D-3) 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), 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).

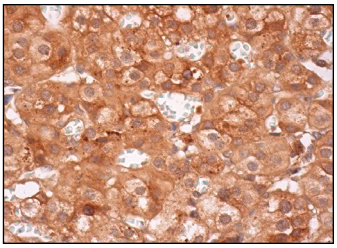
Suitable for use as control antibody for MIP-1α siRNA (h): sc-43933, MIP-1α shRNA Plasmid (h): sc-43933-SH and MIP-1α shRNA (h) Lentiviral Particles: sc-43933-V.

Molecular Weight of MIP-1α: 10 kDa.

DATA



MIP-1α (D-3): sc-166942. Western blot analysis of full length human recombinant MIP-1α.



MIP-1α (D-3): sc-166942. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Jia, J., et al. 2018. MiR-125b inhibits LPS-induced inflammatory injury via targeting MIP-1α in chondrogenic cell ATDC5. Cell. Physiol. Biochem. 45: 2305-2316.
2. Ren, R., et al. 2019. Inflammation promotes progression of pancreatic cancer through WNT/β-catenin pathway-dependent manner. Pancreas 48: 1003-1014.

STORAGE

Store at 4° 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 for detailed protocols and support products.