Product Information

Anti-Macrophage Inflammatory Protein-3β

Produced in goat, Affinity isolated antibody

M9557

Synonym: Anti-MIP-3β

Product Description

Anti-Macrophage Inflammatory Protein-3β is produced in goat using purified recombinant mouse MIP-3β, expressed in *E. coli*, as immunogen. The antibody is purified using mouse MIP-3β affinity chromatography.

Anti-Macrophage Inflammatory Protein-3β may be used to neutralize the bioactivity of recombinant mouse MIP-3β. The antibody may also be used for immunoblotting. By immunoblotting the antibody shows ~5% cross-reactivity with recombinant human MIP-3β. In addition, the antibody shows no cross-reactivity with other chemokines tested.*

MIP-3 chemokines are among many novel β chemokines recently identified through bioinformatics in the Expressed Sequence Tag (EST) database. They are distantly related to other β chemokines (20-30% amino acid sequence homology). MIP-3 chemokines are useful probes for studying the biology of inflammation and cell migration. Their expression is strongly up-regulated by inflammatory signals and down-regulated by the anti-inflammatory cytokine IL-10. MIP3 genes do not share chromosomal locations with other β chemokines that are mainly clustered on chromosome 17.

MIP-3α is also known as LARC (liver and activation-regulated chemokine) and as exodus. It is expressed predominately in lymph nodes, appendix, PBL, fetal liver, fetal lung, and some cell lines. Synthetic or recombinant MIP-3α has been shown to be chemotactic for cultured human lymphocytes and to inhibit proliferation of myeloid progenitors in colony formation assays. MIP-3α binds to the chemokine receptor CCR-6. The MIP-3α gene has been mapped to chromosome.[2]

MIP-3β is also known as ELC (EBI1-1 ligand chemokine) and is constitutively expressed in various lymphoid tissues (thymus, lymph nodes, appendix, and spleen). MIP-3β is a chemoattractant for cultured human lymphocytes, dendritic cells, human T-lymphoblastoid CEM NKR2, and hemopoietic progenitor cells. It may be involved in G Protein activation in human NK cells. MIP-3β is a unique functional ligand for CCR-7. The MIP-3β gene has been mapped to chromosome 9p13.

Reagent

Lyophilized from 0.2 µm-filtered solution in PBS, pH 7.4 with 5% Trehalose.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 µm-filtered PBS to produce a 0.1 mg/mL stock solution of antibody. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at −20 °C. Reconstituted product may be stored at 2-8 °C for at least one month. For prolonged storage, freeze in working aliquots at −20 °C. Avoid repeated freezing and thawing.

Procedure

Neutralization of Bioactivity

To measure the ability of the antibody to neutralize the bioactivity of mouse MIP-3β, recombinant mouse MIP-3β was incubated with various concentrations of the antibody for 30 minutes in a microwell plate. Following preincubation, 35 µL of cytokine-antibody solution (containing antibody at concentrations of 0.01-200 µg/mL and recombinant mouse MIP-3β at 0.1 µg/mL) was transferred to the lower compartment of a 96-well chemotaxis chamber. The chamber was assembled using a PVP-free polycarbonate filter and 2 x 10^6 cells/well were added to the top chamber. After the plate was incubated at 37 °C for 3 hours in a humidified CO_2 incubator, the cells that migrated through to the lower chamber were stained using MTT and the optical density was measured.

The ND_{50} is the concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when the cytokine is present at a concentration just high enough to elicit a maximum response.

Product Profile

Neutralization

A working antibody concentration of 0.8-4 µg/mL will neutralize 50% of the bioactivity due to 0.05 µg/mL recombinant mouse MIP-3β.

Indirect immunoblotting

A working concentration of 0.1-0.2 µg/mL is determined using mouse MIP-3β at 1 ng/lane under non-reducing and reducing conditions.

Immunocytochemistry

A working concentration of 5-15 µg/mL is determined using immersion fixed mouse splenocytes treated with PHA and immersion fixed mouse dendritic cells.

Endotoxin level is <0.1 EU per µg of antibody by the LAL method.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working dilutions by titration test.

References

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3. Kellerman, S.A. et al., The CC chemokine receptor-7 ligands 6Ckine and macrophage inflammatory protein-3β are potent chemoattractants for dendritic cells. J. Immunol., 162, 3859-3864 (1999).
4. Lin, C.L. et al., Dendritic cell chemotaxis and trans endothelial migration are induced by distinct chemokines and are regulated on maturation. Eur. J. Immunol., 28, 4114-4122 (1998).
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6. Dieu, M.C. et al., Selective recruitment of immature and mature dendritic cells by distinct chemokines expressed in different anatomic sites. J. Exp. Med., 188, 373-386 (1998).

*rh6Ckine, rm6Ckine, rhBLC/BCA 1, rmC10, rrCINC-1, rrCINC-2α, rrCINC-2β, rmCRG-2, rhENA-78, rhEotaxin, rmEotaxin, rhEotaxin-2, rhFractalkine, rmFractalkine, rhGCP-2, rmGCP-2, rhGROα, rhGROβ, rhGROγ, rhHCC-1, rhI-309, rhHCC-4, rhIL-8, rhIP-10, rhI-TAC, rmJE, rhLeukotactin-1, rmLymphotactin, rmMARC, rhMCP-1, rhMCP-2, rhMCP-3, rhMCP-4, rmMCP-5, rhMDC, rmMDC, rhMIG, rmMIG, rvMIP-I, rhMIP-1α, rmMIP-1α, rhMIP-1β (ACT II), rvMIP-II, rvMIP-III, rmMIP-1β, rhMIP-1δ, rmMIP-1γ, rmMIP-2, rhMIP-3α, rrMIP-3α, rhMIP-3β, rmMIP-3β, rhMPIF-1, rhNAP-2, rhPARC, rhRANTES, rmRANTES, rhSDF-1α, rmSDF-1α, rhSDF-1β, rhTarc, rmTCA-3, rhTeck, rmTeck.

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