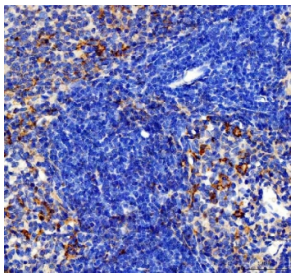
CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody (R31493)

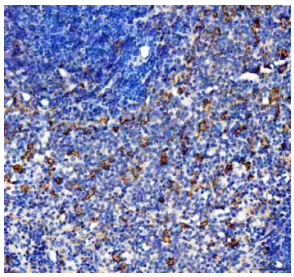
Catalog No.	Formulation	Size
R31493	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

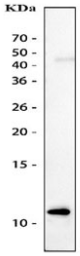
Availability	1-3 business days
Species Reactivity	Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
Gene ID	116637
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody is available for research use only.



CCL4 Antibody Rat Spleen IHC. Immunohistochemistry analysis of FFPE rat spleen tissue using CCL4 Antibody. Heat induced epitope retrieval was performed in pH 8.0 EDTA buffer for 20 minutes prior to overnight incubation with primary antibody. HRP detection with DAB chromogen was used for visualization. Distinct cytoplasmic staining is observed in scattered immune cells within the splenic white pulp and surrounding lymphoid regions, consistent with the expected expression pattern of CCL4, an inflammatory chemokine produced by activated lymphocytes and other immune cells. These results support the use of CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody for studying CCL4 expression, immune cell recruitment and chemokine-mediated inflammatory responses.



CCL4 Antibody Rat Spleen Tissue IHC. Immunohistochemistry analysis of FFPE rat spleen tissue using CCL4 Antibody. Heat induced epitope retrieval was performed in pH 8.0 EDTA buffer for 20 minutes prior to overnight incubation with primary antibody. HRP detection with DAB chromogen was used for visualization. Distinct cytoplasmic staining is observed in scattered immune cells throughout the splenic white pulp, consistent with the expected expression pattern of CCL4, also known as Macrophage Inflammatory Protein 1 Beta, in activated lymphoid cells. These results support the use of CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody for studying CCL4 expression, immune cell recruitment and chemokine-mediated inflammatory responses.



CCL4 Antibody Recombinant Rat Protein WB. Western blot analysis using CCL4 Antibody against recombinant rat CCL4 protein (10 ng/lane). A strong, specific band is detected at approximately 10 kDa, consistent with the expected molecular weight of recombinant CCL4. The clean detection of purified recombinant antigen demonstrates specific recognition of rat CCL4 and complements tissue-based validation of this antibody. These results support the use of CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody for detecting CCL4, also known as Macrophage Inflammatory Protein 1 Beta, in Western blot applications and studies of chemokine signaling and inflammatory immune responses.

Description

CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody detects CCL4, a secreted CC chemokine that plays a central role in leukocyte recruitment and regulation of inflammatory immune responses. Also known as Macrophage Inflammatory Protein 1 Beta (MIP-1 beta), CCL4 is produced primarily by activated T lymphocytes, natural killer cells, monocytes, macrophages and dendritic cells following immune stimulation. The protein functions as a potent chemoattractant by binding the chemokine receptor CCR5, promoting the migration and activation of immune cells at sites of infection, inflammation and tissue injury. Because of its essential role in immune cell trafficking, CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody is widely used in immunology, infectious disease and cancer research.

CCL4 participates in both innate and adaptive immunity by coordinating the recruitment of monocytes, memory T cells, natural killer cells and other leukocyte populations. Together with related chemokines such as CCL3 and CCL5, CCL4 contributes to inflammatory signaling networks that regulate host defense against bacterial, viral and parasitic infections. Binding of CCL4 to CCR5 activates intracellular signaling pathways that promote chemotaxis, cytokine secretion and immune cell activation. Because CCR5 also serves as a co-receptor for human immunodeficiency virus entry into susceptible cells, CCL4 has been extensively investigated for its ability to compete with viral binding and influence susceptibility to infection. CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody provides a valuable tool for studying these important immune mechanisms.

Altered CCL4 expression has been associated with numerous pathological conditions, including autoimmune disease, chronic inflammation, transplant rejection, cardiovascular disease and a wide variety of cancers. Within the tumor microenvironment, CCL4 influences the recruitment of cytotoxic T lymphocytes, dendritic cells and natural killer cells, contributing to anti-tumor immunity while also affecting responses to immunotherapy. Measurement of CCL4 expression is therefore valuable for evaluating inflammatory responses, immune cell infiltration and disease progression in both experimental and translational research.

In addition to its role in inflammation, CCL4 contributes to lymphoid tissue organization, communication between innate and adaptive immune cells and regulation of cytokine networks during immune activation. Continued investigation of CCL4 signaling has expanded understanding of chemokine biology and identified new therapeutic strategies targeting immune cell migration in inflammatory disorders and cancer. As a result, CCL4 remains one of the most extensively studied inflammatory chemokines and an important biomarker for immunological research.

NSJ Bioreagents offers CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody products for researchers

studying chemokine biology, immune cell trafficking and inflammatory disease. These antibodies support applications including Western blot, immunohistochemistry, immunofluorescence, immunoprecipitation and flow cytometry for analysis of CCL4 expression and localization. CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody provides a reliable tool for investigating chemokine signaling, CCR5-mediated immune responses and inflammation-associated diseases.

Researchers studying chemokine signaling, inflammatory mediators and immune cell communication may also be interested in our Cytokine Antibodies page, featuring antibodies against chemokines, cytokines and other immune signaling proteins involved in inflammation, infection and cancer.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the CCL4 Antibody / Macrophage Inflammatory Protein 1 Beta Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Rat partial recombinant protein (AA 24-92) was used as the immunogen for this CCL4 antibody.

Storage

After reconstitution, the CCL4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Macrophage Inflammatory Protein 1 Beta antibody, MIP-1 beta antibody, Chemokine (C-C Motif) Ligand 4 antibody, Small Inducible Cytokine A4 antibody, Lymphocyte Activation Gene 1 Protein antibody, ACT2 antibody

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