

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                                       |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Rat                                                                                                                                                                                                                                                                                   |
| <b>Specificity</b>        | Detects rat CCL4/MIP-1 $\beta$ in direct ELISAs and Western blots. In direct ELISAs, approximately 8% cross-reactivity with recombinant mouse CCL4/MIP-1 $\beta$ and recombinant rat CCL3/MIP-1 $\alpha$ is observed, and less than 2% cross-reactivity with recombinant human CCL4/M |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                                  |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                             |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant rat CCL4/MIP-1 $\beta$<br>Ala24-Asn92<br>Accession # P50230                                                                                                                                                                                       |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                                   |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.           |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| <b>Neutralization</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>   | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

CCL4, also known as macrophage inflammatory protein 1 beta (MIP-1 $\beta$ ), is a 12 kDa  $\beta$  chemokine that is secreted at sites of inflammation by activated leukocytes, lymphocytes, vascular endothelial cells, and pulmonary smooth muscle cells (1, 2). CCL4 attracts a variety of immune cells to sites of microbial infection as well as to other pathologic inflammation such as allergic asthma and ischemic myocardium (3 - 8). A CCL4 deficiency in mice promotes the development of autoantibodies, possibly as a result of compromised regulatory T cell recruitment (6). CCL4 is secreted from activated monocytes as a heterodimer with CCL3/MIP-1 $\alpha$  (9). The first two N-terminal amino acids can be cleaved from human CCL4 by CD26/DPPIV (10, 11). Both the full length and truncated forms exert biological activity through CCR5, and the truncated form additionally interacts with CCR1 and CCR2 (10). In humans, the ability of CCL4 to bind CCR5 inhibits the cellular entry of M-tropic HIV-1 which utilizes CCR5 as a coreceptor (2). Both forms of CCL4 block HIV-1 infection of T cells by inducing the down-regulation of CCR5 (10). Mature rat CCL4 shares 80% and 86% aa sequence identity with human and mouse CCL4, respectively.

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