

Product Information

Anti-CCR5, N-Terminal

produced in rabbit, IgG fraction of antiserum

Product Number **C8604**

Product Description

Anti-CCR5, N-Terminal is produced in rabbit using as immunogen a peptide corresponding to the N-terminal amino acids 6-20 of human CCR5.^{1,2}

Anti-CCR5, N-Terminal specifically recognizes human CCR5 (C-C chemokine receptor type 5) by immunoblotting using a THP-1 whole cell lysate.

Chemokines have been sub-divided into families on the basis of the relative position of their cysteine residues. The α - and β - families, with four cysteine residues, are the largest and best characterized. In the α -family, one amino acid separates the first two cysteine residues (CXC); in the β -family the two cysteine residues (CC) are adjacent to each other. The α -chemokines that contain the N-terminal Glu-Leu-Arg amino acid sequence (ELR-motif) are chemotactic for neutrophils (such as IL-8), while those that do not, act on lymphocytes (such as IP-10 and MIG). Examples of chemokines under the β -family category are MCP1-5 and RANTES. The chemokine lymphotactin belongs to the γ -family, with only two cysteines (C), and the recently described fractalkine or neurotactin is a member of the δ -family and has the first two cysteine residues separated by three amino-acids (CXXXC).

Chemokines bind to specific G protein-coupled cell surface receptors on target cells. Five CXC receptors (CXCR1-5), nine CC receptors (CCR1-9) and one CXXXC receptor (CX₃CR1) have been cloned to date. Expression of chemokine receptors can be restricted to some cell types (CXCR1 is expressed in neutrophils) while others (such as CCR2) are expressed in a wide variety of cells.³ Receptor expression has also been found to be constitutive (including down regulation), inducible or restricted to a cell state of activation. In addition, some chemokine receptors are also expressed in non-hematopoietic cells, such as nerve, endothelial and epithelial cells. This suggests that chemokines have other roles besides leucocyte chemotaxis. CX₃CR1, for example, is highly expressed in adult brain.

Chemokine receptors are linked to phospholipases through the Gi class of G proteins (inhibition by pertussis toxin). Receptor activation leads to a cascade of cellular events including generation of inositol triphosphate, calcium release and activation of protein kinase C. Chemokine receptors also activate small GTP-binding proteins of the Ras and Rho families, the latter being involved in cell motility events. In addition, chemokines bind to non-signaling molecules such as the Duffy antigen receptor for chemokines (DARC) which may act to remove chemokines from the circulation, and heparan sulfates proteoglycans which may serve to establish an ECM concentration gradient.

CCR-5 has 48-75% amino acid sequence identity to earlier identified CC receptors.^{4,5} It is expressed in primary adherent monocytes, but not in neutrophils or eosinophils.⁶⁻¹⁰ CCR-5 mediates the activities of MIP-1 α , MIP-1 β and RANTES. Recently, it has also been shown to be a co-receptor on CD4+ target cells for infection with primary, monocyte-tropic HIV-1 viruses.¹¹⁻¹³

Reagents

Supplied in phosphate buffered saline containing 0.02% sodium azide.

Storage/Stability

Antibody can be stored at 2–8 °C for three months and at –20 °C for one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

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.

Product Profile

Immunoblotting: CCR5 antibody can be used for Western blot at 1 µg/mL.

Immunohistochemistry: CCR5 antibody can also detect CCR5 by immunohistochemistry at 2.5 µg/mL.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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