

BACKGROUND

Chemokines (chemotactic cytokines) belong to a family of chemoattractant molecules involved in the directed migration of immune cells. Over fifty human chemokines have been identified that can be categorized into four groups; CC, CXC, CX3C and C (XCL1 and XCL2); depending on the spacing of their first two cysteine residues. Chemokines exert their effects by binding to G-protein-coupled chemokine receptors on the surface of cells, predominantly leukocytes. Eighteen human chemokine receptors have been identified that are classified according to the class of chemokines that they bind.¹ The major function of chemokines is to regulate leukocyte trafficking in hematopoiesis and in innate and adaptive immunity. Other functions include angiogenic activity, apoptosis, T-cell differentiation and phagocyte activation. Inadvertent activation of chemokine receptors leads to autoimmunity by inappropriately targeting self-antigens for destruction by cytotoxic T-cells and macrophages.²

CCR5 is a member of the beta chemokine receptor family, which is predicted to be a seven transmembrane protein similar to G protein-coupled receptors. This protein is expressed by T cells and macrophages, and is known to be an important co-receptor for macrophage-tropic virus, including HIV, to enter host cells. Defective alleles of this gene have been associated with the HIV infection resistance.³ The ligands of this receptor include a number of inflammatory CC-chemokines including MIP-1-alpha, MIP-1-beta and RANTES and it subsequently transduces a signal by increasing the intracellular calcium ion level. Expression of this gene was also detected in a promyeloblastic cell line, suggesting that this protein may play a role in granulocyte lineage proliferation and differentiation.⁴ This gene is located at the chemokine receptor gene cluster region. Two transcript variants encoding the same protein have been found for this gene.

References:

1. Zlotnik, A. & Yoshie, O.: Immunity 12:121-27, 2000
2. Locati, M.: Ann. Rev. Med. 50:425-40, 1999
3. Moore, J.P. et al: AIDS Res Hum. Retrovir. 20:111-126, 2004
4. Turner, J.E. et al: Mini Rev. Med. Chem. & 1089-96, 2007

TECHNICAL INFORMATION

Source: Anti-CCR5 is a rabbit polyclonal antibody raised against a synthetic peptide corresponding to a sequence at the N-terminal of human CCR5, different from a related rat sequence by two amino acids.

Specificity and Sensitivity: Anti-CCR5 reacts specifically with CCR5 of human, mouse & rat origin in immunostaining and western blotting, no cross-reactivity with other members of the family.

Storage Buffer: 10mM HEPES (pH 7.5), 150mM NaCl, 100µg/ml BSA and 200µg/ml sodium azide.

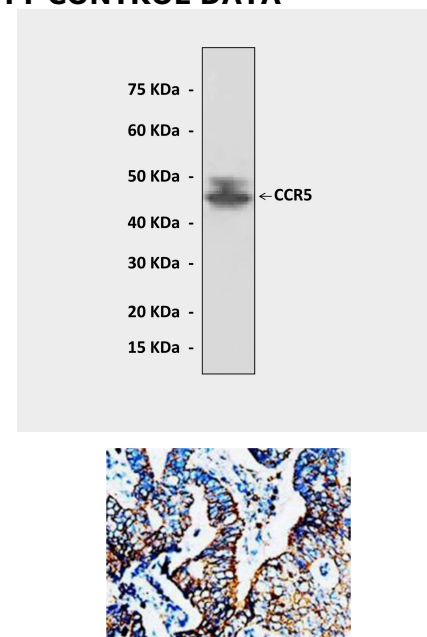
Storage: Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:500 – 1:1000
IP	n/d
IHC	1:50 – 1:200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Detection of CCR5 rat liver tissue lysate in Western blot assay, using Anti-CCR5. **Bottom:** Immunohistochemical staining of paraffin-embedded human oval cancer tissue, using Anti-CCR5.

