

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

CCR2 is a receptor for the MCP-1, MCP-3 and MCP-4 chemokines, which specifically mediate monocyte chemotaxis. Monocyte chemoattractant protein-1 is involved in monocyte infiltration in inflammatory diseases such as rheumatoid arthritis as well as in the inflammatory response against tumors. CCR2 transduces a signal by increasing the intracellular calcium ions level and also mediates agonist-dependent calcium mobilization and inhibition of adenylyl cyclase.³ It may be alternative coreceptor with CD4 for HIV-1 infection.⁴ Its encoding gene is located in the chemokine receptor gene cluster region. CCR2 has two isoforms.

References:

1. Zlotnik, A. & Yoshie, O.: Immunity 12:121-27, 2000
2. Locati, M.: Ann. Rev. Med. 50:425-40, 1999
3. Salcedo, R. et al: Blood 96:34-40, 2000
4. Kostrikis, L.G. et al: Nature Med. 4:350-3, 1998

TECHNICAL INFORMATION

Source:

CCR2 Antibody is a rabbit antibody raised against a short peptide from N-terminal sequence of human CCR2.

Specificity and Sensitivity:

This antibody detects endogenous CCR2 proteins without cross-reactivity with other family members.

Storage Buffer: Rabbit IgG in phosphate buffered saline (without Mg²⁺ and Ca²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.

Storage:

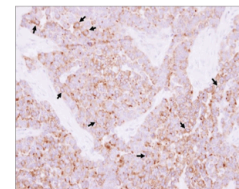
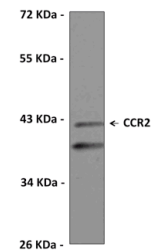
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	n/d
IP	n/d
IHC	1:100-1:1000
ICC	n/d
FACS	n/d
IF	1:100-1:1000

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

QUALITY CONTROL DATA



Top: Western Blot analysis of CCR2 in extracts from Lanes A. K562 using Cat. No. SAB2700071 at a 1:2000 dilution.

Bottom: Immunohistochemical analysis of paraffin-embedded Breast carcinoma, using CCR2 antibody at 1:500 dilution.

