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## Chemokine Receptor selective antibodies

### Anti-Chemokine Receptor 1 (CCR1) Receptor Antibodies (CCR-101AP)

*Alternate Nomenclature: Macrophage inflammatory protein 1A (MIP-1) Receptor*

Chemokine (Chemoattractant Cytokines) are small peptides that are potent activators and chemo-attractants for leukocyte subpopulations and other nonhemopoietic cells. Chemokine receptors (CCR) belong to the superfamily of G protein-coupled receptors (GPCR), which regulate the trafficking and activation of leukocytes, and operate as coreceptors in the entry of HIV-1 and directing the proliferation and migration of immature neurons, glia and their precursors (1). Furthermore, chemokine receptors participate in the etiology and progression of various brain disorders, including AIDS dementia, neuro-inflammatory disease and neuroplasia, making them important potential therapeutic targets in these cases. Induction of chemokines and infiltration of chemokine receptor-bearing cells has also been shown in a variety of animal models of renal diseases, as well as in human diseases and allograft rejection (2)

Activation of naïve T cells by specific antigen and cytokines, up-regulate cell adhesion molecules (CAM) as well as chemokine receptors on their surface, which directs them to migrate towards the inflamed tissues. Several subtypes of CCR have been characterized (Table1).

CCR1 has been implicated in IL8 induced chemotaxis of melanoma cells. The nonresponsive WM35 melanoma cells when stimulated by TNF express higher levels of CXCR1 and exhibit chemotactic towards interleukin-8 (3). Stimulation of CXCR1 also induce focal adhesion kinase (FAK) phosphorylation, that regulate the chemotactic activities of the migrating cells (4). On the contrary, glucocorticoid/dexamethasone has potent anti-inflammatory effects, yet it up-regulates expression of CXCR4 but not that of CXCR1 and CXCR3 (4).

The CXCR receptor protein is approximately 45-55 kDa (405 amino acids) protein which has 7 transmembrane domains, characteristic of G-protein coupled receptors. The all CXCR sequence analyses suggest the presence of 7 transmembrane domains, a characteristic feature of GPCR. The protein has putative N-glycosylation sites near the extra cellular N-terminal end of the proteins. The protein has a large 3<sup>rd</sup> intra cellular loop which interacts with G-proteins. The short carboxy terminal is intracellular and has putative post-translational sites. The Anti-CXCR-selective antibodies were generated against conserved but unique sequences on various CXCR receptors that are expressed only in a particular CXCR receptor subtype. The polyclonal antibodies were affinity purified on an immobilized antigen based affinity chromatography. These epitope-specific antibodies strongly label particular chemokine receptors in their respective western blot positive controls. Anti-CXCR-selective antibodies are also available in the form of fluorescent conjugates for direct application in IHC upon request at extra charge. *FabGennix Int. Inc.* also provides antibodies against several other GPCRs including orphan receptors. *FabGennix, Inc.*, will also provide Western blot positive controls for most of these antibodies in ready-to-use buffer for easy identification of respective proteins. Limited quantities of antigenic peptides are also available. Please enquire for their availability before ordering.

	Type	Cat #	Expression
1	CCR1	CCR-101AP	Melanoma, leukocytes, microglia, EC, podocytes
2	CCR2	CCR-201AP	Intestinal microvascular cells
3	CCR3	CCR-301AP	Microglia, podocytes
4	CCR4	CCR-401AP	Inflammatory cells
5	CCR5	CCR-501AP	Podocytes,

Catalog #	Host Species	Nature	Cross reactivity	Quantity	price
CCR-101AP	Rabbit	Affinity purified CCR1 Antibody	H, M, R, monk, bov	200 ul	235
P-CCR1	n/a	Antigeinc peptide for CCR-101AP	n/a	250 ug	125
PC-CCR1	n/a	Western blot positive control	n/a	5 appl	inq

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; \* For 5 applications

**Immunogen:** Synthetic peptide (selective for CCR1 receptor. Peptide Seq: aa: 7-24; tpd ydt te fdy gda tpc)  
**Concentration:** CCR-101: IgG concentration 0.5-0.6 mg/ml in antibody stabilization buffer.  
**Applications:** Antibody CCR-101AP is ideal for IMM, WB and IHC. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB > 1:500; IMM & i.p pull-down assays: > 1:250; IHC, n.d.  
**Reactivity:** This antibody detects a single 55 kDa CCR1 in PC-CCR1 samples. The antibody does not cross reacts with other members of the CCR family.  
**Protocols:** Standard protocol for various applications (WB, IMM and IHC) of this antibody is provided with the product specification sheet, however, *FabGennix Inc.* strongly recommends investigators to optimize conditions for use of this antibody.  
**Form/Storage:** The antiserum is supplied in antibody stabilization buffer with 0.02% sodium azide as preservative. For long-term storage of antibodies, store at -20oC. *FabGennix Inc.* does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45u filter after every use for long-term storage.

### References:

1. Tran PB, Miller RJ. *Nat Rev Neurosci.* 2003 4:444-55
2. Segerer S. *Am J Kidney Dis.* 2003 41, :S15-8.
3. Ramjeesingh R, Leung R, Siu CH. *FASEB J.* 2003 May 8 [Epub ahead of print].
4. *Immunology.* 2002 Feb;105(2):155-62.

\* For users who may require large amounts of CCR-101AP, please enquire about bulk material discounts.  
 This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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