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New Item
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Chemokine Receptor selective antibodies

Anti-Chemokine Receptor 4 (CCR4) Receptor Antibodies (CCR4-401AP)

Chemokine (Chemoattractant Cytokines) are small peptides that are potent activators and chemo-attractants for leukocyte subpopulations and other non-hemopoietic 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 co-receptors 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 neuropiliasia, 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). The CCR4 receptors are activated by its ligand CCL17/TARC. CCR4 has been implicated Not complex

| | 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, |

function parallel to or down stream of the bur1/2 that facilitate trimethylation of Histone H3 and regulate the transcription activity (3). CCR4 is also involved in the chondrogenesis of mesenchymal stem cells, this process is influenced by many molecules including CXCL1, FIT3L, CCR3 and CCR4. The induction of CCR4 positive cell in duodenum affects the food allergy, in skin-tropic condition, in allergic bronchopulmonary aspergillosis (ABPA) is a rare variant of severe asthma resulting from hypersensitivity to *Aspergillus fumigatus*. The expression of CCR4 is decreases in several autoimmune diseases such as diabetes type1 and rheumatoid arthritis.

The CCR4 receptor protein is approximately 45 kDa (360 amino acids) protein which has 7 transmembrane domains, characteristic of G-protein coupled receptors. The CCR4 receptors are activated by Thymus and activation-regulated chemokine (TARC) that is expressed constitutively in thymus and transiently in stimulated peripheral blood mononuclear cells. The protein has putative N-glycosylation sites near the extra cellular N-terminal end of the proteins. The protein has a large 3rd intra cellular loop which interacts with G-proteins. The short carboxy terminal is intracellular and has putative post-translational sites. The Anti-CCR4-selective antibodies were generated against conserved but unique sequences on various CCR4 receptors that are expressed only in CCR4 receptor subtype. The polyclonal antibodies were affinity purified on an immobilized antigen based affinity chromatography. These epitope-specific antibodies strongly label the CCR4 from the Western blot positive control CCR4 samples. Anti-CCR-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 proteins. Limited quantities of antigenic peptides are also available. Please enquire for their availability before ordering.

| Catalog # | Host Species | Nature | Cross reactivity | Quantity | Vol |
|------------|--------------|---|-------------------|------------|---------|
| CCR4-401AP | Rabbit | Affinity purified CCR4 antibodies | H,R, M, cat, monk | 100 ug | 200ul |
| P-CCR4 | N/A | Antigenic blocking peptide for CCR4-401AP | n/a | 250ug | 100ul |
| PC-CCR4 | N/A | Western blot positive control for CCR4 | Rat | For 5 appl | inquire |

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

Immunogen: Synthetic peptide (selective for CCR4 receptor: amino acid sequence: nyy lye sip kpc tke gik afg e)
Concentration: CCR4-401: IgG concentration 0.67-0.75 mg/ml in antibody stabilization buffer.
Applications: Antibody CCR4-401AP 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 44kDa CCR4 in PC-CCR4 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 can be obtained upon request from FabGennix International Inc., technical service, 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. Mulder KW, Brenkman AB, Inagaki A, van den Broek NJ, Timmers HT. Regulation of histone H3K4 tri-methylation and PAF complex recruitment by The Ccr4-Not complex. Nucleic Acids Res. 2007 Mar 28; [Epub ahead of print

* For users who may require large amounts of CCR4-401AP, 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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