# CKR-4 (K-14): sc-32133



The Power to Question

#### **BACKGROUND**

C-C or  $\beta$  chemokine family members are characterized by a pair of adjacent cysteine residues and serve as potent chemoattractants and activators of monocytes and T cells. C-C chemokine receptor family members include CKR-1, CKR-2A, CKR-2B, CKR-3, CKR-4, CKR-5, CKR-6, CKR-7, CKR-8, CKR-9, CKR-10 and the Duffy blood group antigen. Each of these receptors are G protein-coupled, seven pass transmembrane domain proteins whose major physiological role is to function in the chemotaxis of T cells and phagocytic cells to areas of inflammation. However, this receptor family has also been shown to facilitate viral infection. CKR-4 (C-C chemokine receptor type 4), also known as CCR4 or CMKBR4, is a 360 amino acid multi-pass membrane protein that localizes to the cell membrane and belongs to the C-C chemokine receptor family. Expressed at high levels in peripheral blood leukocytes and thymus tissue, CKR-4 functions as a high affinity receptor for C-C type chemokines and is thought to be involved in hippocampal-neuron survival.

# **REFERENCES**

- Schweickart, V.L., Raport, C.J., Godiska, R., Byers, M.G., Eddy, R.L., Jr., Shows, T.B. and Gray, P.W. 1994. Cloning of human and mouse EBI1, a lymphoid-specific G protein-coupled receptor encoded on human chromosome 17q12-q21.2. Genomics 23: 643-650.
- Deng, H., Liu, R., Ellmeier, W., Choe, S., Unutmaz, D., Burkhart, M., Di Marzio, P., Marmon, S., Sutton, R.E. and Hill, C.M. 1996. Identification of a major co-receptor for primary isolates of HIV-1. Nature 381: 661-666.
- 3. Dragic, T., Litwin, V., Allaway, G.P., Martin, S.R., Huang, Y., Nagashima, K.A., Cayanan, C., Maddon, P.J., Koup, R.A. and Moore, J.P. 1996. HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5. Nature 381: 667-673.
- 4. Feng, Y., Broder, C.C., Kennedy, P.E. and Berger, E.A. 1996. HIV-1 entry cofactor: functional cDNA cloning of a seven-transmembrane, G protein-coupled receptor. Science 272: 872-877.
- 5. Alkhatib, G., Combadiere, C., Broder, C.C., Feng, Y., Kennedy, P.E., Murphy, P.M. and Berger, E.A. 1996. CC CKR5: a RANTES, MIP- $1\alpha$ , MIP- $1\beta$  receptor as a fusion cofactor for macrophage-tropic HIV-1. Science 272: 1955-1958.
- 6. Choe, H., Farzan, M., Sun, Y., Sullivan, N., Rollins, B., Ponath, P.D., Wu, L., Mackay, C.R., LaRosa, G. and Newman, W. 1996. The  $\beta$  chemokine receptors CCR3 and CCR5 facilitate infection by primary HIV-1 isolates. Cell 85: 1135-1148.
- Doranz, B.J., Rucker, J., Yi, Y., Smyth, R.J., Samson, M., Peiper, S.C., Parmentier, M., Collman, R.G. and Doms, R.W. 1996. A dual-tropic primary HIV-1 isolate that uses fusin and the β chemokine receptors CKR-5, CKR-3, and CKR-2B as fusion cofactors. Cell 85: 1149-1158.

# **CHROMOSOMAL LOCATION**

Genetic locus: CCR4 (human) mapping to 3p22.3; Ccr4 (mouse) mapping to 9 F3.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

#### **SOURCE**

CKR-4 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of CKR-4 of human origin.

## **PRODUCT**

Each vial contains 200  $\mu g$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32132 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

CKR-4 (K-14) is recommended for detection of CKR-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CKR-4 (K-14) is also recommended for detection of CKR-4 in additional species, including canine and porcine.

Suitable for use as control antibody for CKR-4 siRNA (h): sc-39886, CKR-4 siRNA (M): sc-39887, CKR-4 shRNA Plasmid (h): sc-39886-SH, CKR-4 shRNA Plasmid (m): sc-39887-SH, CKR-4 shRNA (h) Lentiviral Particles: sc-39886-V and CKR-4 shRNA (m) Lentiviral Particles: sc-39887-V.

Molecular Weight of CKR-4: 41 kDa.

## **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

# **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



Try **CKR-4 (G-2): sc-377357**, our highly recommended monoclonal alternative to CKR-4 (K-14).

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com