SANTA CRUZ BIOTECHNOLOGY, INC.

CX3CR1 (K-13): sc-31561

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The Power to Question

BACKGROUND

Chemokines are chemoattractant proteins that are divided into subfamilies based upon cysteine signature motifs termed C, CC, CXC and CX3C. Fractalkine, also designated CX3CL1, contains the CX3C motif and is widely expressed in brain and upregulated in endothelial cells in response to inflammatory signals, such as LPS, IL-1, TNF and CD40L. Fractalkine exists both as a membrane-bound form and as a chemotactic soluble form, and binds its cognate receptor, CX3CR1, with high affinity, to induce leukocyte adhesion and migration or chemotactic functions. CX3CR1, previously designated V28 and chemokine beta receptor-like 1 (CMKBRL1), is expressed in neutrophils, monocytes, T lymphocytes and several organs including brain. CX3CR1 also functions with CD4 as a co-receptor for the HIV-1 virus envelope protein, and patients homozygous for a variant haplotype of CX3CR1 progress to AIDS more rapidly than those with other haplotypes. CX3CR1 may also be involved in the pathogenesis of atherosclerotic coronary artery disease (CAD) and is considered a potential drug target for therapeutic intervention of endothelium-related inflammatory diseases.

REFERENCES

1. Combadiere, C., et al. 1995. Cloning, chromosomal localization, and RNA expression of a human β chemokine receptor-like gene. DNA Cell Biol. 14: 673-680.
2. Combadiere, C., et al. 1998. Identification of CX3CR1. A chemotactic receptor for the human CX3C chemokine fractalkine and a fusion coreceptor for HIV-1. J. Biol. Chem. 273: 23799-23804.
3. Feng, L., et al. 1999. Prevention of crescentic glomerulonephritis by immunoneutralization of the fractalkine receptor CX3CR1 rapid communication. Kidney Int. 56: 612-620.
4. Meucci, O., et al. 2000. Expression of CX3CR1 chemokine receptors on neurons and their role in neuronal survival. Proc. Natl. Acad. Sci. USA 97: 8075-8080.
5. Faure, S., et al. 2000. Rapid progression to AIDS in HIV+ individuals with a structural variant of the chemokine receptor CX3CR1. Science 287: 2274-2277.

CHROMOSOMAL LOCATION

Genetic locus: CX3CR1 (human) mapping to 3p22.2; Cx3cr1 (mouse) mapping to 9 F4.

SOURCE

CX3CR1 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of CX3CR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31561 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CX3CR1 (K-13) is recommended for detection of CX3CR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CX3CR1 (K-13) is also recommended for detection of CX3CR1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for CX3CR1 siRNA (h): sc-39904, CX3CR1 siRNA (m): sc-39905, CX3CR1 shRNA Plasmid (h): sc-39904-SH, CX3CR1 shRNA Plasmid (m): sc-39905-SH, CX3CR1 shRNA (h) Lentiviral Particles: sc-39904-V and CX3CR1 shRNA (m) Lentiviral Particles: sc-39905-V.

Molecular Weight (predicted) of CX3CR1 isoforms 1/2/3: 40/44/41 kDa.

Molecular Weight (Observed) of CX3CR1: 40-50 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, J774.A1 cell lysate: sc-3802 or THP-1 cell lysate: sc-2238.

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) 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.

SELECT PRODUCT CITATIONS

1. Kim, M., et al. 2012. Fractalkine receptor CX(3)CR1 is expressed in epithelial ovarian carcinoma cells and required for motility and adhesion to peritoneal mesothelial cells. Mol. Cancer Res. 10: 11-24.

STORAGE

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

RESEARCH USE

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