SANTA CRUZ BIOTECHNOLOGY, INC.

CXCR-4 (12G5): sc-12764

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The C-X-C or α chemokine family is characterized by a pair of cysteine residues separated by a single amino acid and primarily functions as chemoattractants for neutrophils. The C-X-C family includes IL-8, NAP-2, MSGA and stromal cell derived factor-1 (SDF-1). SDF-1 was originally described as a pre-B cell stimulatory factor, but has now been shown to function as a potent chemoattractant for T cells and monocytes but not neutrophils. Receptors for the C-X-C family are G protein-coupled, seven pass transmembrane domain proteins which include IL-8RA, IL-8RB and fusin (also known as LESTR or CXCR-4). Fusin is highly homologous to the IL-8 receptors, sharing 37% sequence identity at the amino acid level. The IL-8 receptors bind to IL-8, NAP-2 and MSGA, while fusin binds to its cognate ligand, SDF-1. Fusin has been identified as the major co-receptor for T-tropic HIV-1 and SDF-1 has been shown to inhibit HIV-1 infection.

CHROMOSOMAL LOCATION

Genetic locus: CXCR4 (human) mapping to 2q22.1.

SOURCE

CXCR-4 (12G5) is a mouse monoclonal antibody raised against living CP-MAC-infected SUP-T1 cells.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for biological studies, sc-12764 L, 200 µg/0.1 ml.

CXCR-4 (12G5) is available conjugated to agarose (sc-12764 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-12764 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12764 PE), fluorescein (sc-12764 FITC), Alexa Fluor® 488 (sc-12764 AF488), Alexa Fluor® 546 (sc-12764 AF546), Alexa Fluor® 594 (sc-12764 AF594) or Alexa Fluor® 647 (sc-12764 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12764 AF680) or Alexa Fluor® 790 (sc-12764 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CXCR-4 (12G5) is recommended for detection of CXCR-4 of human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10^6 cells).

CXCR-4 (12G5) is also recommended for detection of CXCR-4 in additional species, including primate.

Suitable for use as control antibody for CXCR-4 siRNA (h): sc-35421, CXCR-4 shRNA Plasmid (h): sc-35421-SH and CXCR-4 shRNA (h) Lentiviral Particles: sc-35421-V.

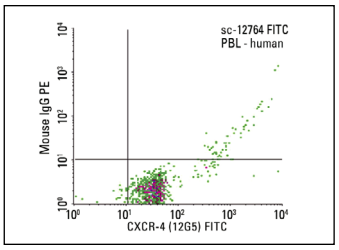
Molecular Weight of CXCR-4: 40-47 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, U-937 cell lysate: sc-2239 Jurkat whole cell lysate: sc-2204.

STORAGE

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

DATA



CXCR-4 (12G5L) FITC: sc-12764 FITC. FCM analysis of human peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal mouse IgG_{2a}-FITC: sc-2856.

SELECT PRODUCT CITATIONS

1. Lin, T.J., et al. 2001. SDF-1 induces IL-8 production and transendothelial migration of human cord blood-derived mast cells. Int. Arch. Allergy Immunol. 124: 142-145.
2. Hamon, M., et al. 2004. A syndecan-4/CXCR4 complex expressed on human primary lymphocytes and macrophages and HeLa cell line binds the CXC chemokine stromal cell-derived factor-1 (SDF-1). Glycobiology 14: 311-323.
3. Kim, J., et al. 2006. Chemokine receptor CXCR4 expression in patients with melanoma and colorectal cancer liver metastases and the association with disease outcome. Ann. Surg. 244: 113-120.
4. Lee, Y., et al. 2008. Functional expression of CXCR4 in somatotrophs: CXCL12 activates GH gene, GH production and secretion, and cellular proliferation. J. Endocrinol. 199: 191-199.
5. Brule, S., et al. 2009. Glycosaminoglycans and syndecan-4 are involved in SDF-1/CXCL12-mediated invasion of human epitheloid carcinoma HeLa cells. Biochim. Biophys. Acta 1790: 1643-1650.
6. Nijmeijer, S., et al. 2010. The Epstein-Barr virus-encoded G protein-coupled receptor BILF1 hetero-oligomerizes with human CXCR4, scavenges $G_{\alpha i}$ proteins, and constitutively impairs CXCR4 functioning. J. Biol. Chem. 285: 29632-29641.
7. Goldenberg, D.M., et al. 2012. Horizontal transmission and retention of ma-lignancy, as well as functional human genes, after spontaneous fusion of human glioblastoma and hamster host cells *in vivo*. Int. J. Cancer 131: 49-58.
8. Mills, S.C., et al. 2016. Cell migration towards CXCL12 in leukemic cells compared to breast cancer cells. Cell. Signal. 28: 316-324.

RESEARCH USE

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