

Ultra-LEAF™ Purified anti-human CD184 (CXCR4) Antibody

Catalog# / Size	306539 / 100 µg 306540 / 1 mg
Clone	12G5
Regulatory Status	RUO
Workshop	VII 70204
Other Names	CXCR4, Fusin
Isotype	Mouse IgG2a, κ
Description	CD184, also known as fusin or CXCR4, is a 45 kD seven transmembrane G-protein-linked CXC chemokine receptor. CD184 is widely expressed on blood and tissue cells, including B and T cells, monocytes, macrophages, dendritic cells, granulocytes, megakaryocytes/platelets, lymphoid, myeloid precursor cells, endothelial cells, epithelial cells, astrocytes, and neurons, among other tissue cells. CD184 is the receptor for CXC chemokine SDF-1, mediates blood cell migration, and is involved in B lymphopoiesis and myelopoiesis, cardiogenesis, blood vessel formation, and cerebellar development. CXCR4 is also a coreceptor of X4 HIV-1 and an alternative receptor for some isolates of HIV-2.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Baboon, Chimpanzee, Sooty Mangabey
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	CP-MAC-infected Sup-T1 cells
Formulation	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
Preparation	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
Concentration	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
Application	FC - Quality tested ICC, CyTOF® - Verified IHC, Block - Reported in the literature, not verified in house
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤ 1.0 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	Additional reported applications (for the relevant formats) include: immunohistochemical staining of paraffin-embedded tissue sections ¹¹ , immunocytochemistry ³ , immunofluorescence microscopy ^{2,6} , and blocking of CD4-independent infection by HIV-2 and CD4-dependent infection by some T cell-tropic isolates of HIV-1 ^{4,5} . Clone 12G5 may not be suitable for Western blotting. ¹⁰ The Ultra-LEAF™ purified antibody (Endotoxin <0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. Nos. 306539 & 306540).
Application References	1. McKnight A, <i>et al.</i> 1997. <i>J. Virol.</i> 71:1692. 2. Endres MJ, <i>et al.</i> 1996. <i>Cell</i> 87:745. (Immunogen, IF)
(PubMed link indicates	

- BioLegend citation)**
3. Volin MV, *et al.* 1998. *Biochem. Biophys. Res. Commun.* 242:46. (ICC)
 4. Berndt C, *et al.* 1998. *P. Natl. Acad. Sci. USA* 95:12556. (Block)
 5. Ullrich CK, *et al.* 2000. *Blood* 96:1438. (Block)
 6. Murga M, *et al.* 2005. *Blood* 105:1992. (IF)
 7. Thompson BD. 2007. *J. Biol. Chem.* 282:9547. (FC) [PubMed](#)
 8. Isnardi I, *et al.* 2010. *Blood* 115:5026. [PubMed](#)
 9. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
 10. Fischer T, *et al.* 2008. *PLoS One* 3:e4069.
 11. Schmid BC, *et al.* 2004. *Breast Cancer Res. Treat.* 84:247. (IHC)

RRID AB_2814149 (BioLegend Cat. No. 306539)
AB_2814150 (BioLegend Cat. No. 306540)

Antigen Details

Structure	Rhodopsin family, G-protein linked seven transmembrane glycoprotein, 45 kD
Distribution	T cells and B cells, dendritic cells, monocytes, granulocytes, hematopoietic progenitors, endothelial cells
Function	B lymphopoiesis and myelopoiesis, cardiogenesis, blood vessel formation, cerebellar development
Ligand/Receptor	SDF-1 receptor, coreceptor for X4 HIV-1
Cell Type	B cells, Dendritic cells, Endothelial cells, Granulocytes, Hematopoietic stem and progenitors, Mesenchymal Stem Cells, Monocytes, Neural Stem Cells, T cells, Tregs
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience, Neuroscience Cell Markers, Stem Cells
Molecular Family	CD Molecules, Cytokine/Chemokine Receptors, GPCR
Antigen References	1. Berger E, <i>et al.</i> 1999. <i>Annu. Rev. Immunol.</i> 17:657. 2. Loetscher P, <i>et al.</i> 2000. <i>Adv. Immunol.</i> 74:127. 3. Murphy P, <i>et al.</i> 2000. <i>Pharmacol. Rev.</i> 52:145.
Gene ID	7852

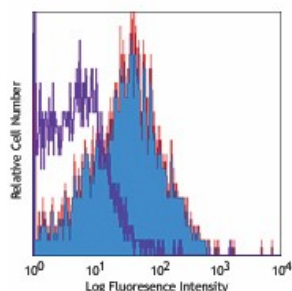
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

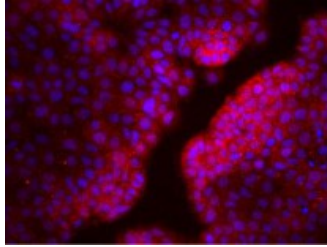
Other Formats

APC anti-human CD184 (CXCR4), Biotin anti-human CD184 (CXCR4), PE anti-human CD184 (CXCR4), PE/Cyanine5 anti-human CD184 (CXCR4), Purified anti-human CD184 (CXCR4), PerCP/Cyanine5.5 anti-human CD184 (CXCR4), PE/Cyanine7 anti-human CD184 (CXCR4), Brilliant Violet 421™ anti-human CD184 (CXCR4), Brilliant Violet 605™ anti-human CD184 (CXCR4), Purified anti-human CD184 (CXCR4) (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD184 (CXCR4), APC/Cyanine7 anti-human CD184 (CXCR4), Brilliant Violet 785™ anti-human CD184 (CXCR4), TotalSeq™-A0366 anti-human CD184 (CXCR4), TotalSeq™-C0366 anti-human CD184 (CXCR4), Brilliant Violet 510™ anti-human CD184 (CXCR4), Ultra-LEAF™ Purified anti-human CD184 (CXCR4), APC/Fire™ 750 anti-human CD184 (CXCR4), TotalSeq™-B0366 anti-human CD184 (CXCR4)

Product Data



Human peripheral blood lymphocytes stained with LEAF™ purified 12G5, followed by biotinylated anti-mouse IgG and Sav-PE



MCF7 breast cancer cell line was stained with anti-human CD184, detected with anti-mouse DyLight™ 649, and nuclear counterstained with DAPI. Images were acquired with a TE300 fluorescence microscope with a 20x objective. Data provided by: Er Liu and John Nolan, La Jolla Bioengineering Institute

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