

## Brilliant Violet 421™ anti-human CD184 (CXCR4) Antibody

<b>Catalog# / Size</b>	306517 / 25 tests 306518 / 100 tests
<b>Clone</b>	12G5
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	VII 70204
<b>Other Names</b>	CXCR4, Fusin
<b>Isotype</b>	Mouse IgG2a, κ
<b>Description</b>	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

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<b>Verified Reactivity</b>	Human, Cynomolgus, Rhesus
<b>Reported Reactivity</b>	African Green, Baboon, Chimpanzee, Sooty Mangabey
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	CP-MAC-infected Sup-T1 cells
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.  Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.  <a href="#">Learn more about Brilliant Violet™.</a>  This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: immunohistochemical staining of

paraffin-embedded tissue sections<sup>11</sup>, immunocytochemistry<sup>3</sup>, immunofluorescence microscopy<sup>2,6</sup>, and blocking of CD4-independent infection by HIV-2 and CD4-dependent infection by some T cell-tropic isolates of HIV-1<sup>4,5</sup>. Clone 12G5 may not be suitable for Western blotting.<sup>10</sup> 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

(PubMed link indicates BioLegend citation)

1. McKnight A, *et al.* 1997. *J. Virol.* 71:1692.
2. Endres MJ, *et al.* 1996. *Cell* 87:745. (Immunogen, IF)
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)

#### Product Citations

1. Hinks TSC, *et al.* 2019. *Cell Rep.* 28:3249. [PubMed](#)
2. Saxena S, *et al.* 2016. *Stem Cell Reports.* 6: 692-703. [PubMed](#)
3. Terenzi DC, *et al.* 2021. *STAR Protoc.* 2:100311. [PubMed](#)
4. Tabler C, *et al.* 2014. *J Virol.* 88:4976. [PubMed](#)
5. Mair B *et al.* 2019. *Cell reports.* 27(2):599-615 . [PubMed](#)
6. Smulski C, *et al.* 2017. *Cell Rep.* 18(9):2189-2202. [PubMed](#)
7. Xu J, *et al.* 2017. *Clin Cancer Res.* 23:4482. [PubMed](#)
8. Garcia F, *et al.* 2020. *Sci Rep.* 10:14262. [PubMed](#)
9. Demberg T, *et al.* 2014. *Clin Immunol.* 153:264. [PubMed](#)
10. Gage BK, *et al.* 2020. *Cell Stem Cell.* 27(2):254-269.e9. [PubMed](#)

#### RRID

AB\_10901163 (BioLegend Cat. No. 306517)  
AB\_11146018 (BioLegend Cat. No. 306518)

## Antigen Details

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<b>Structure</b>	Rhodopsin family, G-protein linked seven transmembrane glycoprotein, 45 kD
<b>Distribution</b>	T cells and B cells, dendritic cells, monocytes, granulocytes, hematopoietic progenitors, endothelial cells
<b>Function</b>	B lymphopoiesis and myelopoiesis, cardiogenesis, blood vessel formation, cerebellar development
<b>Ligand/Receptor</b>	SDF-1 receptor, coreceptor for X4 HIV-1
<b>Cell Type</b>	B cells, Dendritic cells, Endothelial cells, Granulocytes, Hematopoietic stem and progenitors, Mesenchymal Stem Cells, Monocytes, Neural Stem Cells, T cells, Tregs
<b>Biology Area</b>	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience, Neuroscience Cell Markers, Stem Cells
<b>Molecular Family</b>	CD Molecules, Cytokine/Chemokine Receptors, GPCR
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Berger E, <i>et al.</i> 1999. <i>Annu. Rev. Immunol.</i> 17:657.</li><li>2. Loetscher P, <i>et al.</i> 2000. <i>Adv. Immunol.</i> 74:127.</li><li>3. Murphy P, <i>et al.</i> 2000. <i>Pharmacol. Rev.</i> 52:145.</li></ol>
<b>Gene ID</b>	<a href="#">7852</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

## Other Formats

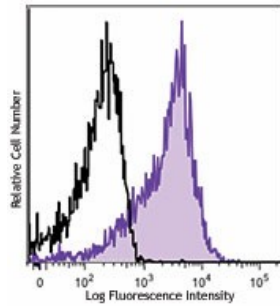
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APC anti-human CD184 (CXCR4), Biotin anti-human CD184 (CXCR4), PE anti-human CD184 (CXCR4), PE/Cyanine5 anti-human CD184 (CXCR4), Purified anti-human CD184 (CXCR4), PerCP/Cyanine5.5 anti-human CD184 (CXCR4), PE/Cyanine7 anti-human

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), TotalSeq™-D0366 anti-human CD184 (CXCR4)

## Product Data

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Human peripheral blood lymphocytes were stained with CD184 (clone 12G5) Brilliant Violet 421™ (filled histogram) or mouse IgG2a, κ Brilliant Violet 421™ isotype control (open histogram).

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