**Technical Data Sheet**

**PE-CF594 Mouse Anti-Human CD184**

**Product Information**

- **Material Number:** 562389
- **Alternate Name:** CXCR4; Fusin; SDF-1 receptor; LAP3; LCR1; LESTR; NPYY3R; NPY3R; WHIM; HM8
- **Size:** 50 tests
- **Vol. per Test:** 5 µl
- **Clone:** 12G5
- **Isotype:** Mouse (BALB/c) IgG2a, κ
- **Reactivity:** QC Testing: Human
- **Workshop:** VII 70204, 70305
- **Storage Buffer:** Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The 12G5 monoclonal antibody specifically binds to CD184, also known as CXCR4 and Fusin. CD184/CXCR4 is a seven-transmembrane domain, G-protein-linked, glycoprotein chemokine receptor. CD184 serves as a receptor for the C-X-C chemokine, SDF-1. It is expressed on a wide variety of hematopoietic cells, vascular endothelial cells and cells of the nervous system. CD184 plays a variety of roles in hematopoiesis, vascularization and neural development. CD184 also functions as a coreceptor for infection with T-cell tropic strains of HIV-1 and as a receptor for CD4-independent infection by some HIV isolates. The 12G5 antibody has been reported to block CD4-independent infection by HIV-2 and CD4-dependent infection by some T-cell tropic isolates of HIV-1.

This antibody is conjugated to BD Horizon™ PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red®. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red® yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red® (eg 610/20-nm filter).

**Flow cytometric analysis of CD184 expression on human peripheral blood lymphocytes.** Whole blood was stained with either BD Horizon™ PE-CF594 Mouse Anti-Human CD184 antibody (Cat. No. 562389; solid line histogram) or with a BD Horizon™ PE-CF594 Mouse IgG2a, κ Isotype Control (Cat. No. 562306; dashed line histogram). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.

**Preparation and Storage**

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594 were removed.

**Application Notes**

**Application**

| Flow cytometry | Routinely Tested |

**BD Biosciences**

bdbiosciences.com

United States 877.232.8995 800.268.5430 32.2.400.98.95 0120.8555.90 65.6861.0633 55.11.5185.9995

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### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).

2. An isotype control should be used at the same concentration as the antibody of interest.

3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

5. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.

6. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.

7. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CF™594.

8. This product is provided under an Agreement between BIOTIUM and BD Biosciences. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications owned or licensed by Biotium, Inc. This product, and only in the amount purchased by buyer, may be used solely for buyer’s own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. This product is for research use only. Diagnostic uses require a separate license from Biotium, Inc. For information on purchasing a license to this product including for purposes other than research, contact Biotium, Inc., 3159 Corporate Place, Hayward, CA 94545, Tel: (510) 265-1027. Fax: (510) 265-1352. Email: btinfo@biotium.com.

9. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.

10. CF™ is a trademark of Biotium, Inc.

11. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.


### References


Simmons G, Wilkinson D, Reeves JD, et al. Primary, syncytium-inducing human immunodeficiency virus type 1 isolates are dual-tropic and most can use either Lestr or CCR5 as coreceptors for virus entry. J Virol. 1996; 70(12):8355-8360. (Biology)