

## Technical Data Sheet

## PE-Cy™7 Mouse Anti-Human CD195

## Product Information

|                         |   |
|-------------------------|---|
| <b>Material Number:</b> | 561749  |
| <b>Alternate Name:</b>  | CCR5; C-C chemokine receptor type 5; CC-CKR-5; CKR5; CHEMR13      |
| <b>Entrez Gene ID:</b>  | 1234  |
| <b>Size:</b>            | 25 tests  |
| <b>Vol. per Test:</b>   | 5 µl  |
| <b>Clone:</b>           | 2D7/CCR5  |
| <b>Isotype:</b>         | Mouse IgG2a, κ  |
| <b>Reactivity:</b>      | QC Testing: Human   |
| <b>Storage Buffer:</b>  | Aqueous buffered solution containing BSA and ≤0.09% sodium azide. |

## Description

The 2D7/CCR5 monoclonal antibody specifically binds to the human chemokine receptor, CCR5. CCR5 is also known as CD195. CCR5 is a seven transmembrane-spanning G protein-associated molecule. CCR5 belongs to the beta chemokine receptor family. It is expressed on a subset of T lymphocytes (CD3+CD45RO+CD95+). CCR5 regulates lymphocyte chemotaxis activation and transendothelial migration during inflammation. It signals a response to at least three chemokines: RANTES and macrophage inflammatory protein-1 (MIP-1), and monocyte chemoattractant protein 2 (MCP-2). Additionally, CCR5 has been found to be a co-receptor for macrophage-tropic HIV-1 on CD4+ cells, a characteristic that is important in viral transmission. Reports indicate that individuals who have partial (heterozygous) or complete (homozygous) deletion of the CCR5 allele, demonstrate resistance to HIV infection. This antibody has been shown to block ligand and gp120 binding. It is also able to neutralize HIV infection.

## 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 PE-Cy7 under optimum conditions, and unconjugated antibody and free PE-Cy7 were removed.

## Application Notes

## Application

|                |                  |
|----------------|------------------|
| Flow cytometry | Routinely Tested |
|----------------|------------------|

## Recommended Assay Procedure:

Immunophenotyping studies of chemokine receptors need to be performed on freshly collected whole blood (<24 Hrs). Incubation with the antibody should be done at room temperature in the dark. Cellular manipulation, such as Ficoll-Paque™ separation, freezing, or exposure to cold temperatures prior to staining have been shown to cause a decrease in staining intensity and inconsistent results.

## Suggested Companion Products

| Catalog Number | Name                                   | Size      | Clone    |
|----------------|--|-----------|----------|
| 557907         | PE-Cy™7 Mouse IgG2a, κ Isotype Control | 100 tests | G155-178 |
| 554656         | Stain Buffer (FBS)                     | 500 ml    | (none)   |

## Product Notices

- This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100-µl experimental sample (a test).
- 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.
- PE-Cy7 is a tandem fluorochrome composed of R-phycoerythrin (PE), which is excited by 488-nm light and serves as an energy donor, coupled to the cyanine dye Cy7, which acts as an energy acceptor and fluoresces maximally at 780 nm. PE-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from PE may be observed. Therefore, we recommend that individual compensation controls be performed for every PE-Cy7 conjugate. PE-Cy7 is optimized for use with a single argon ion laser emitting 488-nm light, and there is no significant overlap between PE-Cy7 and FITC emission spectra. When using dual-laser cytometers, which may directly excite both PE and Cy7, we recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
- Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.

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6. An isotope control should be used at the same concentration as the antibody of interest.
7. 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.
8. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
9. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
10. Ficoll-Paque is a trademark of Amersham Biosciences Limited.
11. Warning: Some APC-Cy7 and PE-Cy7 conjugates show changes in their emission spectrum with prolonged exposure to formaldehyde. If you are unable to analyze fixed samples within four hours, we recommend that you use BD™ Stabilizing Fixative (Cat. No. 338036).
12. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.

## References

- Choe H, Farzan M, Sun Y, et al. The beta-chemokine receptors CCR3 and CCR5 facilitate infection by primary HIV-1 isolates. *Cell*. 1996; 85(7):1135-1148. (Biology)
- Deng H, Liu R, Ellmeier W, et al. Identification of a major co-receptor for primary isolates of HIV-1. *Nature*. 1996; 381(6584):661-666. (Biology)
- Doranz BJ, Rucker J, Yi Y, et al. A dual-tropic primary HIV-1 isolate that uses fusin and the beta-chemokine receptors CKR-5, CKR-3, and CKR-2b as fusion cofactors. *Cell*. 1996; 85(7):1149-1158. (Biology)
- Dragic T, Litwin V, Allaway GP, et al. HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5. *Nature*. 1996; 381(6584):667-673. (Biology)
- Hancock WW. Chemokines and the pathogenesis of T cell-dependent immune responses. *Am J Pathol*. 1996; 148(3):681-684. (Biology)
- Ponath P. Leukosite, Inc. . (Biology)
- Raport CJ, Gosling J, Schweickart VL, Gray PW, Charo IF. Molecular cloning and functional characterization of a novel human CC chemokine receptor (CCR5) for RANTES, MIP-1beta, and MIP-1alpha. *J Biol Chem*. 1996; 271(29):17161-17166. (Biology)
- Roederer M, Kantor AB, Parks DR, Herzenberg LA. Cy7PE and Cy7APC: bright new probes for immunofluorescence. *Cytometry*. 1996; 24(3):191-197. (Biology)
- Wu L, Paxton WA, Kassam N, et al. CCR5 levels and expression pattern correlate with infectability by macrophage-tropic HIV-1, in vitro. *J Exp Med*. 1997; 185(9):1681-1689. (Biology)