

Technical Data Sheet

BUV737 Mouse Anti-Human CD195

Product Information

Material Number:	748873
Size:	50 µg
Clone:	3A9
Alternative Name:	CCR-5; Chemokine (C-C motif) receptor 5; CMKBR5; CKR5; CKR-5; CHEMR13
Reactivity:	Human (Tested in Development)
Isotype:	Mouse C57BL/6 IgG2a, κ
Immunogen:	Human CCR5 Transfected Cell Line
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	VII 70309
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 3A9 monoclonal antibody recognizes CD195, which is also known as the chemokine receptor, CCR5, a seven transmembrane-spanning G protein-associated molecule. The 3A9 antibody also reportedly cross-reacts with human CCR8. Results of epitope mapping and sequence comparison between CCR5 and CCR8 reveals that the first three amino acid residues for these two receptors are identical: MDY (Met-Asp-Tyr). CCR5 belongs to the β-chemokine receptor family. It is expressed on subsets of T lymphocytes, NK cells, monocytes, macrophages, and dendritic cells. 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) α and β. 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. CCR5 has been clustered as CD195 in the VIIth HLDA workshop.

The antibody was conjugated to BD Horizon™ BUV737 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 with an Ex Max of 348-nm and an acceptor dye with an Em Max at 737-nm. BD Horizon Brilliant BUV737 can be excited by the ultraviolet laser (355 nm) and detected with a 740/35 filter. Due to the excitation of the acceptor dye by other laser lines, there may be significant spillover into channels detecting Alexa Fluor® 700-like dyes (eg, 712/20-nm filter).

Due to spectral differences between labeled cells and beads, using BD™ CompBeads can result in incorrect spillover values when used with BD Horizon BUV737 reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended. Different BUV737 reagents (eg, CD4 vs. CD45) can have slightly different fluorescence spillover therefore, it may also be necessary to use clone specific compensation controls when using these reagents.

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 BUV737 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
612765	BUV737 Mouse IgG2a, κ Isotype Control	50 μ g	G155-178
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Ultraviolet 737 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; 8,354,239.

References

- Campbell JJ, Qin S, Unutmaz D, et al. Unique subpopulations of CD56+ NK and NK-T peripheral blood lymphocytes identified by chemokine receptor expression repertoire. *J Immunol.* 2001; 166(11):6477-6482. (Biology: Flow cytometry).
- 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: Flow cytometry).
- Dambra PP, Loria MP, D'Oronzio L, et al. The Cytokine Receptor Panel: Flow cytometry analysis on lymphocytes from neonates, young, aged normal donors, and from patients with HIV infection or AIDS. In: Mason D, David Mason .. et al., ed. *Leucocyte typing VII : white cell differentiation antigens : proceedings of the Seventh International Workshop and Conference held in Harrogate, United Kingdom.* Oxford: Oxford University Press; 2002; :269-271.
- 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: Flow cytometry).
- 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: Flow cytometry).
- Hancock WW. Chemokines and the pathogenesis of T cell-dependent immune responses. *Am J Pathol.* 1996; 148(3):681-684. (Biology: Flow cytometry).
- Karlsson I, Malleret B, Brochard P, et al. FoxP3+ CD25+ CD8+ T-cell induction during primary simian immunodeficiency virus infection in cynomolgus macaques correlates with low CD4+ T-cell activation and high viral load. *J Virol.* 2007; 81(24):13444-13455. (Clone-specific: Flow cytometry).
- 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: Flow cytometry).
- Rottman JB, Ganley KP, Williams K, Wu L, Mackay CR, Ringler DJ. Cellular localization of the chemokine receptor CCR5. Correlation to cellular targets of HIV-1 infection. *Am J Pathol.* 1997; 151(5):1341-1351. (Clone-specific: Flow cytometry).
- 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. (Immunogen: Flow cytometry).

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United States
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Canada
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Europe
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Japan
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