Technical Data Sheet

BV421 Rat Anti-Human CX3CR1

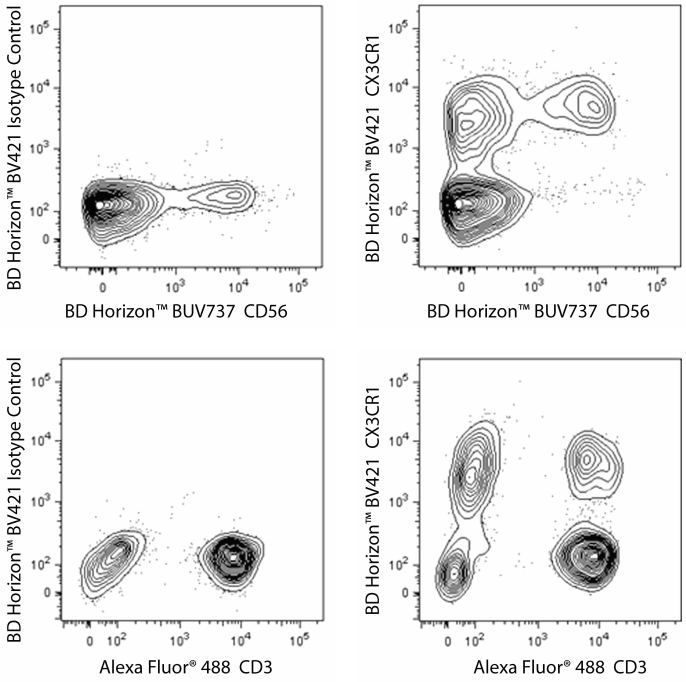
Product Information

Material Number:	**565800**
Alternate Name:	CCRL1; CMKBRL1; CMKDR1; GPR13; GPRV28; V28; Fractalkine Receptor
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	2A9-1
Immunogen:	Human CX3CR1 Recombinant Protein
Isotype:	Rat IgG2b, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 2A9-1 monoclonal antibody specifically binds to human CX3CR1, which is also known as chemokine (C-C) receptor-like 1 (CCRL1), Beta chemokine receptor-like 1 (CMK-BRL-1), G protein-coupled receptor 13 (GPR13), or GPRV28 (V28). CX3CR1 is a seven transmembrane G protein coupled receptor that is expressed by NK cells, T cells, and monocytes. The cellular expression of CX3CR1 is correlated with high levels of intracellular perforin and granzyme B. CX3CR1 serves as a receptor for fractalkine (CX3CL1). Fractalkine is a transmembrane chemokine of the CX3C family that is expressed on activated endothelial cells, neurons, and astrocytes. Interaction of CX3CR1 with fractalkine initiates cellular adhesive and chemotactic responses.

The antibody was conjugated to BD Horizon BV421 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue conjugates.



Multicolor flow cytometric analysis of CX3CR1 expression on human peripheral blood cells. *Whole blood was treated with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899) to lyse erythrocytes. After washing, the leucocytes were stained with BD Horizon™ BUV737 Mouse Anti-Human CD56 antibody (Cat. No. 564447; Top Plots), Alexa Fluor® 488 Mouse Anti-Human CD3 antibody (Cat. No. 557694; Bottom Plots), and either BD Horizon™ BV421 Rat IgG2b, κ Isotype Control (Cat. No. 562603; Left Plots) or BD Horizon BV421 Rat Anti-Human CX3CR1 antibody (Cat. No. 565800/565801; Right Plots). Two-color flow cytometric contour plots showing the correlated expression of CD56 or CD3 versus CX3CR1 (or Ig Isotype control staining), were derived from gated events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ X-20 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

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Application Notes

Application

Flow cytometry	Routinely Tested

Recommended Assay Procedure:

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes 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
565801	BV421 Rat Anti-Human CX3CR1	25 Tests	2A9-1
562603	BV421 Rat IgG2b, κ Isotype Control	50 µg	R35-38
557694	Alexa Fluor® 488 Mouse Anti-Human CD3	100 Tests	UCHT1
564447	BUV737 Mouse Anti-Human CD56	100 Tests	NCAM16.2
555899	Lysing Buffer	100 mL	(none)
349202	BD FACS™ Lysing Solution	100 mL	(none)
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)

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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
8. An isotype control should be used at the same concentration as the antibody of interest.

References

Kobayashi T, Okamoto S, Iwakami Y, et al. Exclusive increase of CX3CR1+CD28-CD4+ T cells in inflammatory bowel disease and their recruitment as intraepithelial lymphocytes. *Inflamm Bowel Dis.* 2007; 13(7):837-46. (Biology)

Kondo Y, Kimura O, Tanaka Y, et al. Differential Expression of CX3CL1 in Hepatitis B Virus-Replicating Hepatoma Cells Can Affect the Migration Activity of CX3CR1+ Immune Cells. *J Virol.* 2015; 89(14):7016-27. (Biology)

Nanki T, Imai T, Nagasaka K, et al. Migration of CX3CR1-positive T cells producing type 1 cytokines and cytotoxic molecules into the synovium of patients with rheumatoid arthritis. *Arthritis Rheum.* 2002; 46(11):2878-83. (Clone-specific: Flow cytometry)

Nishimura M, Umehara H, Nakayama T, et al. Dual functions of fractalkine/CX3C ligand 1 in trafficking of perforin+/granzyme B+ cytotoxic effector lymphocytes that are defined by CX3CR1 expression. *J Immunol.* 2002; 168(12):6173-80. (Immunogen: Flow cytometry)

Siwetz M, Sundl M, Kolb D, et al. Placental fractalkine mediates adhesion of THP-1 monocytes to villous trophoblast. *Histochem Cell Biol.* 2015; 143(6):565-74. (Biology)

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