

Technical Data Sheet

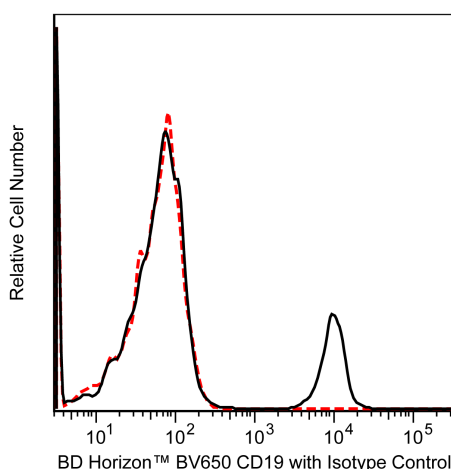
BV650 Mouse Anti-Human CD19**Product Information**

Material Number:	563226
Alternate Name:	B4; B-lymphocyte antigen CD19; Leu-12
Size:	100 tests
Vol. per Test:	5 µl
Clone:	SJ25C1 (also known as SJ25-C1)
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	II L17; III 073
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The SJ25C1 monoclonal antibody specifically binds to CD19, a B lymphocyte-lineage differentiation antigen. CD19, a 90-kDa transmembrane glycoprotein, is a member of the immunoglobulin superfamily and is expressed throughout B-lymphocyte development from the pro-B cell through the mature B-cell stages. Terminally differentiated plasma cells do not express CD19. On the surface of mature B cells, the CD19 molecule associates with CD21 (CR-2) and CD81 (TAPA-1), and this multimolecular complex synergizes with surface immunoglobulin to promote cellular activation. Studies with CD19-deficient mice have suggested that the level of CD19 expression affects the generation and maturation of B cells in the bone marrow and periphery. B-1 lineage B cells, also known as CD5+ B cells, are drastically reduced or absent in CD19-deficient mice. Increased levels of CD19 expression correlate with increased frequencies of peritoneal and splenic B-1 cells and reduced numbers of conventional B lymphocytes in the periphery. CD19 participates in B-lymphocyte development, B-cell activation, maturation of memory B cells and regulation of tolerance. CD19 has also been detected on peritoneal mast cells, co-localized with CD21/CD35, and it is proposed to play a role in complement-mediated mast-cell activation.

The antibody was conjugated to BD Horizon™ BV650 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. This dye is a tandem fluorochrome of BD Horizon™ BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon™ BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.



Flow cytometric analysis of CD19 on human peripheral blood lymphocytes. Human whole blood was stained with the BD Horizon™ BV650 Mouse Anti-Human CD19 antibody (Cat. No. 563226/563227; solid line histogram) or with a BD Horizon™ BV650 Mouse IgG1, κ Isotype Control (Cat. No. 563231; dashed line histogram). The erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). 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™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV650 were removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
563227	BV650 Mouse Anti-Human CD19	25 tests	SJ25C1
563231	BV650 Mouse IgG1, k Isotype Control	50 µg	X40
349202	FACS Lysing Solution		(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. An isotype control should be used at the same concentration as the antibody of interest.
3. Brilliant Violet™ 650 is a trademark of Sirigen.
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. 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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.

References

Dörken B, Möller P, Pezzutto A, Schwartz-Albiez R, Moldenhauer G. B-cell antigens: CD19. In: Knapp W, Dörken B, Gilks WR, et al, ed. *Leukocyte Typing IV: White Cell Differentiation Antigens*. New York, NY: Oxford University Press; 1989:34-36. (Biology)

Loken MR, Shah VO, Dattilio KL, Civin CI. Flow cytometric analysis of human bone marrow. II. Normal B lymphocyte development. *Blood*. 1987; 70(5):1316-1324. (Biology)

Moldenhauer G, Dörken B, Schwartz R, Pezzutto A, Knops J, Hammerling GJ. Analysis of ten B lymphocyte-specific workshop monoclonal antibodies. In: Reinherz EL, Haynes BF, Nadler LM, Bernstein ID, ed. *Leukocyte Typing II: Human B Lymphocytes*. New York: Springer-Verlag; 1986:61-67. (Clone-specific: Blocking)

Nadler LM. B Cell/Leukemia Panel Workshop: summary and comments. In: Reinherz EL, Haynes BF, Nadler LM, Bernstein ID, ed. *Leukocyte Typing II: Human B Lymphocytes*. New York: Springer-Verlag; 1986:3-43. (Clone-specific: Flow cytometry, Immunoprecipitation)

Nadler LM, Anderson KC, Marti G, et al. B4, a human B lymphocyte-associated antigen expressed on normal, mitogen-activated, and malignant B lymphocytes. *J Immunol*. 1983; 131(1):244-250. (Clone-specific: Flow cytometry)

Reichert T, DeBruyere M, Deneys V, et al. Lymphocyte subset reference ranges in adult Caucasians. *Clin Immunol Immunopathol*. 1991; 60(2):190-208. (Biology)

Tedder TF, Zhou LJ, Engel P. The CD19/CD21 signal transduction complex of B lymphocytes. *Immunol Today*. 1994; 15(9):437-442. (Biology)

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