

Technical Data Sheet

BV650 Mouse Anti-Mouse V β 17[a] T-Cell Receptor

Product Information

Material Number:	745275
Size:	50 μ g
Clone:	KJ23
Alternative Name:	T cell receptor beta variable 17[a]; TCR Vb17[a]
Reactivity:	Mouse (Tested in Development)
Isotype:	Mouse BALB/c IgG2a, κ
Immunogen:	Mouse T cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing \leq 0.09% sodium azide.
Regulatory Status:	RUO

Description

The KJ23 monoclonal antibody specifically recognizes V β 17[a] T-cell Receptor (TCR) of mice having the a haplotype (eg, C57L, SJL, SWR) of the Tcrb gene complex. Strains having the b (eg, A, AKR, BALB/c, CBA, C3H/He, C57BL, C58, DBA/1, DBA/2) Tcrb haplotype do not express functional V β 17 TCR, and the Tcrb-V17 gene locus is deleted in mice having the c (eg, RIII) haplotype. V β 17[a] TCR-bearing T lymphocytes are clonally eliminated in mice expressing I-E (eg, C57BR). KJ23 antibody also recognizes two phenotypic variants of the V β 17[a] TCR: V β 17[a2] expressed in a variety of wild-derived mouse strains and V β 17[a(cz)] expressed in Mtv -free CZ mice. The effects of Mtv -encoded superantigens upon V β 17[a] TCR-bearing T cells has been reviewed. Plate-bound KJ23 antibody activates V β 17[a] TCR-bearing T cells, and injection of the antibody can deplete V β 17[a]-bearing T cells.

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.

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 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
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
563417	BV650 Mouse IgG2a, κ Isotype Control	50 μ g	G155-178

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 Violet 650 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
10. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

References

- Cazenave PA, Marche PN, Jouvin-Marche E, et al. V beta 17 gene polymorphism in wild-derived mouse strains: two amino acid substitutions in the V beta 17 region greatly alter T cell receptor specificity. *Cell*. 1990; 63(4):717-728.
- Haqqi TM, Banerjee S, Anderson GD, David CS. RIII S/J (H-2r). An inbred mouse strain with a massive deletion of T cell receptor V beta genes. *J Exp Med*. 1989; 169(6):1903-1909.
- Kappler JW, Roehm N, Marrack P. T cell tolerance by clonal elimination in the thymus. *Cell*. 1987; 49(2):273-280.
- Kappler JW, Wade T, White J, . A T cell receptor V beta segment that imparts reactivity to a class II major histocompatibility complex product. *Cell*. 1987; 49(2):263-271.
- Katz JD, Lebow LT, Bonavida B. The in vivo depletion of V beta 17a+ T cells results in the inhibition of reticulum cell sarcoma growth in SJL/J mice. Evidence for the use of anticlonotypic antibody therapy in the control of malignancy. *J Immunol*. 1989; 143(4):1387-1395.
- Ramsdell F, Lantz T, Fowlkes BJ. A nondeletional mechanism of thymic self tolerance. *Science*. 1989; 246(4933):1038-1041.
- Tomonari K, Fairchild S, Rosenwasser OA. Influence of viral superantigens on V beta- and V alpha-specific positive and negative selection. *Immunol Rev*. 1993; 131:131-168.
- Wade T, Bill J, Marrack PC, Palmer E, Kappler JW. Molecular basis for the nonexpression of V beta 17 in some strains of mice. *J Immunol*. 1988; 141(6):2165-2167.

BD Biosciences

bdbiosciences.com

United States
877.232.8995

Canada
888.268.5430

Europe
32.53.720.550

Japan
0120.8555.90

Asia Pacific
65.6861.0633

Latin America/Caribbean
0800.771.7157

For country contact information, visit bdbiosciences.com/contact

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for a patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited. For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

©2020 BD. All rights reserved. Unless otherwise noted, BD, the BD Logo and all other trademarks are the property of Becton, Dickinson and Company or its affiliates.

