

# Technical Data Sheet

## BV711 Rat Anti-Mouse CD45RC

### Product Information

Material Number:	740653
Size:	50 µg
Clone:	DNL-1.9
Alternative Name:	Ptprc; Cd45; CD45R; L-CA; Ly-5; Lyt-4; T200
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat LEW, also known as Lewis IgG2a, κ
Immunogen:	70Z/3 mouse pre-B cell line
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	19264
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The DNL-1.9 antibody monoclonal antibody specifically recognizes an exon C-dependent epitope of CD45 protein which is found at high density on B cells, and at low density on peripheral T cytotoxic/suppressor cells, a subset of peripheral T helper cells, and a very small subset of thymocytes. CD45 is a member of the Protein Tyrosine Phosphatase (PTP) family: Its intracellular (COOHterminal) region contains two PTP catalytic domains, and the extracellular region is highly variable due to alternative splicing of exons 4, 5, and 6 (designated A, B, and C, respectively), plus differing levels of glycosylation. The CD45 isoforms detected in the mouse are cell type-, maturation-, and activation state-specific. The CD45 isoforms play complex roles in T-cell and B-cell antigen receptor signal transduction.

The antibody was conjugated to BD Horizon™ BV711 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 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 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 BV711 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
563047	BV711 Rat IgG2a, κ Isotype Control	50 µg	R35-95
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

## 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](http://www.bdbiosciences.com/colors).
7. Please refer to [www.bdbiosciences.com/us/s/resources](http://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 711 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. Cy is a trademark of Amersham Biosciences Limited.
11. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

## References

- Dessner DS, Loken MR. DNL 1.9: a monoclonal antibody which specifically detects all murine B lineage cells. *Eur J Immunol.* 1981; 11(4):282-285.
- Hathcock KS, Laszlo G, Dickler HB, et al. Expression of variable exon A-, B-, and C-specific CD45 determinants on peripheral and thymic T cell populations. *J Immunol.* 1992; 148(1):19-28.
- Johnson P, Maiti A, Ng DHW. CD45: A family of leukocyte-specific cell surface glycoproteins. In: Herzenberg LA, Weir DM, Herzenberg LA, Blackwell C, ed. *Weir's Handbook of Experimental Immunology, Vol 2.* Cambridge: Blackwell Science; 1997; :62.1-62.16.
- Rogers PR, Pilapil S, Hayakawa K, Romain PL, Parker DC. CD45 alternative exon expression in murine and human CD4+ T cell subsets. *J Immunol.* 1992; 148(12):4054-4065.

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[bdbiosciences.com](http://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  
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