

# Technical Data Sheet

## BV711 Rat Anti-Mouse CD35

### Product Information

|                    |   |
|--------------------|---|
| Material Number:   | 740702  |
| Size:              | 50 µg   |
| Clone:             | 8C12  |
| Alternative Name:  | CR1, CD21b  |
| Reactivity:        | Mouse (Tested in Development)                             |
| Isotype:           | Rat SD, also known as Sprague-Dawley (outbred) IgG2a, κ   |
| Immunogen:         | Purified mouse CR1  |
| Application:       | Flow cytometry (Qualified)                                |
| Concentration:     | 0.2 mg/ml   |
| Entrez Gene ID:    | 12902   |
| Storage Buffer:    | Aqueous buffered solution containing ≤0.09% sodium azide. |
| Regulatory Status: | RUO   |

### Description

The 8C12 antibody recognizes an epitope present on the 190-kDa complement receptor protein, originally designated CR1 (CD35), but not the 145-150-kDa CR2 (CD21) molecule. Unlike the human system, in which these proteins are products of independent genes, both of these mouse receptors are membrane proteins resulting from the alternative splicing of mRNA transcribed from the Cr2 gene. Therefore, an alternative nomenclature has been proposed, designating the proteins Cr2-190 (CD21b) and Cr2-145 (CD21a), respectively. The epitope recognized by 8C12 mAb is only present on CD35/CD21b. Moreover, it has also been proposed that Cr2 is the true mouse genetic homologue of human CR1 (CD35). In the mouse, CD35 is expressed on the majority of peripheral B cells, on the majority of resident peritoneal macrophages, on peripheral blood granulocytes after treatment with N-formyl-Met-Leu-Phe, and on follicular dendritic cells, but not on thymocytes, T cells, erythrocytes, or platelets. In addition, it has not been detected, at the protein or mRNA level, in the macrophage cell line J774, bone marrow-derived macrophages, or thioglycollate-elicited peritoneal macrophages. The 8C12 mAb has been reported to inhibit rosette formation by C3b-bearing sheep erythrocytes, to block the complement-dependent trapping of immune complexes by follicular dendritic cells, and to down-regulate mouse CD35 expression upon in vivo application, inhibiting only some primary antibody responses to immunization. B lymphocytes of Cr2 [ null ] mice display impaired humoral immune responses in vivo. The 8C12 mAb recognizes an epitope on mouse CD35 distinct from the epitope recognized by anti-mouse CD21/CD35 mAb 7G6, and it does not block binding by 7G6 mAb to CD35.

\*Please note that the isotype of 8C12 mAb was originally reported to be Rat IgG2c. Further investigations have demonstrated that the isotype of 8C12 mAb is Rat IgG2a.

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 Section

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, $\kappa$ Isotype Control RUO                    | 50 $\mu$ g |       |
| 554656         | Stain Buffer (FBS) RUO   | 500 mL     |       |
| 554657         | Stain Buffer (BSA) RUO   | 500 mL     |       |
| 563794         | Brilliant Stain Buffer RUO                                       | 100 Tests  |       |
| 555899         | Lysing Buffer RUO  | 100 mL     |       |
| 553141         | Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO | 0.1 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](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

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