Technical Data Sheet

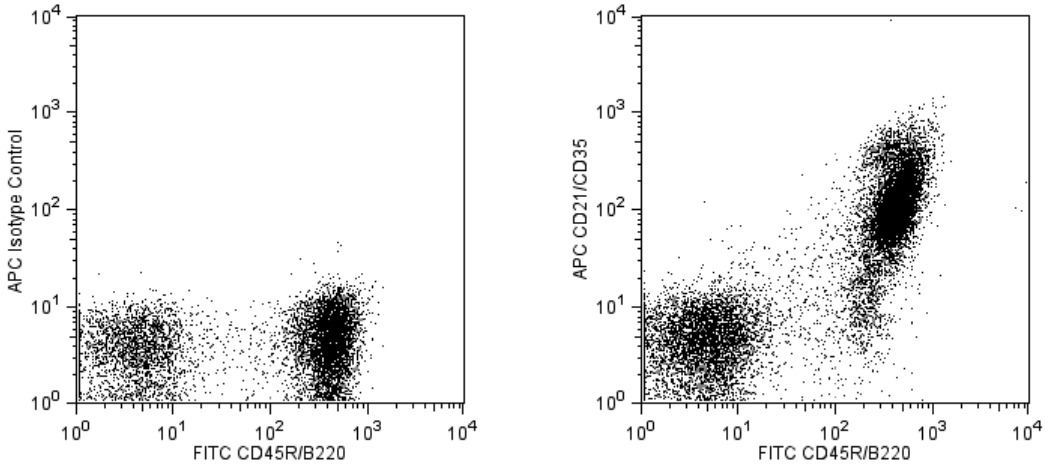
APC Rat anti-Mouse CD21/CD35

Product Information

Material Number:	**558658**
Alternate Name:	CR2/CR1
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	7G6
Isotype:	Rat (SD) IgG2b, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 7G6 antibody recognizes an epitope shared by 145-150-kDa and 190-kDa complement receptor proteins, originally designated CR2 (CD21) and CR1 (CD35), respectively. In the mouse, CD21 and CD35 are expressed on the majority of peripheral B lymphocytes, on the majority of resident peritoneal macrophages and mast cells, 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. CD21 is a ligand-binding component of the CD19/CD21/CD81 signal-transduction complex associated with the antigen receptor on B lymphocytes. CD21/CD35 also co-localizes with CD19 on the surface of peritoneal mast cells. Cr2null mice display impaired inflammatory and humoral immune responses in vivo. The 7G6 mAb has been reported to inhibit rosette formation by C3d-bearing sheep erythrocytes, to block the complement dependent trapping of immune complexes by follicular dendritic cells, and to down-regulate mouse CD21/CD35 expression upon in vivo application, thus inhibiting primary antibody responses to immunization. Co-stimulation of B-cell differentiation via Sepharose-coupled 7G6 antibody has also been observed. The 7G6 mAb recognizes an epitope on CD35 distinct from the epitope recognized by anti-mouse CD35, clone 8C12 (Cat. No. 558768, for the purified antibody), and it does not block binding of 8C12 mAb to mouse CD35.



Expression of CD21/CD35 on splenic B lymphocytes. *C57BL/6 splenocytes were stained with FITC-conjugated anti-mouse CD45R/B220 mAb RA3-6B2 (Cat. no. 553087/553088) and either APC-conjugated rat IgG2b, isotype control mAb A95-1 (Cat. no. 556924, left panel) or APC-conjugated mAb 7G6 (right panel). Varying levels of CD21/CD35 expression on B-cell subpopulations can be distinguished. Flow cytometry was performed on a BD FACSCalibur™ flow cytometry 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 to APC under optimum conditions, and unconjugated antibody and free APC were removed.

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
556924	APC Rat IgG2b, κ Isotype Control	0.1 mg	A95-1
553088	FITC Rat Anti-Mouse CD45R/B220	0.5 mg	RA3-6B2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Ahearn JM, Fischer MB, Croix D, et al. Disruption of the Cr2 locus results in a reduction in B-1a cells and in an impaired B cell response to T-dependent antigen. *Immunity.* 1996; 4(3):251-262. (Biology)

Axcrona K, Gray D, Leanderson T. Regulation of B cell growth and differentiation via CD21 and CD40. *Eur J Immunol.* 1996; 26(9):2203-2207. (Biology)

Fischer MB, Goerg S, Shen L, et al. Dependence of germinal center B cells on expression of CD21/CD35 for survival. *Science.* 1998; 280(5363):582-585. (Biology)

Gommerman JL, Oh DY, Zhou X, et al. A role for CD21/CD35 and CD19 in responses to acute septic peritonitis: a potential mechanism for mast cell activation. *J Immunol.* 2000; 165(12):6915-6921. (Biology)

Heyman B, Wiersma EJ, Kinoshita T. In vivo inhibition of the antibody response by a complement receptor-specific monoclonal antibody. *J Exp Med.* 1990; 172(2):665-668. (Clone-specific: Blocking)

Kinoshita T, Takeda J, Hong K, Kozono H, Sakai H, Inoue K. Monoclonal antibodies to mouse complement receptor type 1 (CR1). Their use in a distribution study showing that mouse erythrocytes and platelets are CR1-negative. *J Immunol.* 1988; 140(9):3066-3072. (Immunogen)

Kinoshita T, Thyphronitis G, Tsokos GC, et al. Characterization of murine complement receptor type 2 and its immunological cross-reactivity with type 1 receptor. *Int Immunol.* 1990; 2(7):651-659. (Biology)

Molina H, Holers VM, Li B, et al. Markedly impaired humoral immune response in mice deficient in complement receptors 1 and 2. *Proc Natl Acad Sci U S A.* 1996; 93(8):3357-3361. (Biology)

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

Thyphronitis G, Kinoshita T, Inoue K, et al. Modulation of mouse complement receptors 1 and 2 suppresses antibody responses in vivo. *J Immunol.* 1991; 147(1):224-230. (Biology)

Wiersma EJ, Kinoshita T, Heyman B. Inhibition of immunological memory and T-independent humoral responses by monoclonal antibodies specific for murine complement receptors. *Eur J Immunol.* 1991; 21(10):2501-2506. (Biology)

Yoshida K, van den Berg TK, Dijkstra CD. Two functionally different follicular dendritic cells in secondary lymphoid follicles of mouse spleen, as revealed by CR1/2 and FcR gamma II-mediated immune-complex trapping. *Immunology.* 1993; 80(1):34-39. (Biology)