Technical Data Sheet

PE-CF594 Rat Anti-Mouse CD44

Product Information

Material Number:	562464
Alternate Name:	Pgp-1, H-CAM, Ly-24
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	IM7
Immunogen:	Dexamethasone-induced cells of the SJL mouse spontaneous myeloid leukemia
	M1
Isotype:	Rat IgG2b, ĸ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The IM7 antibody reacts with an epitope on both alloantigens and all isoforms of the CD44 glycoprotein (Pgp-1, Ly-24). The standard form of CD44, lacking variable exons and referred to as CD44H or CD44s, is widely expressed on hematopoietic and non-hematopoietic cells. CD44 isoforms encoded by variable exons are expressed on epithelial cells, but only at low levels on most leukocytes. Mice with the Ly-24.1 alloantigen (e.g., BALB/c, CBA/J, DBA/1, DBA/2) have relatively large subsets of CD44H+ T lymphocytes, while Ly-24.2 strains (e.g., A, AKR, CBA/N, C3H/He, C57BL, C57BR, C57L, C58, NZB, SJL, SWR, 129) have few CD44H+ T cells. CD44 is a cell adhesion receptor, and its principal ligand, hyaluronate, is a common component of extracellular matrices. Differential glycosylation of CD44 expression increases upon activation of B lymphocytes, CD4+ T cells, and CD8+ T cells; memory cells can be recognized by their CD44[hi] phenotype. The IM7 mAb inhibits established collagen-induced arthritis in DBA/1 mice. Moreover, it prevents CNS inflammation and clinical symptoms of experimental autoimmune encephalomyelitis. In contrast, the same antibody exacerbates experimental autoimmune thyroiditis in CBA/J mice. The IM7 mAb recognizes a different epitope from that recognized by mAb KM114 (Cat. No. 558739), and the antibody pair can be used in ELISA to detect soluble CD44. It has been observed that IM7 antibody cross-reacts with human, dog, cat, horse, cow, and pig leukocytes. Anti-human CD44, clone G44-26 (Cat. No. 555476), and IM7 antibody compete for binding to human peripheral blood lymphocytes.

This antibody is conjugated to BD Horizon[™] PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red[®]. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red[®] yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red[®] (eg 610/20-nm filter).



Multiparameter flow cytometric analysis of CD44 expression on bone-marrow cells. Mouse bone-marrow cells were stained with either BD Horizon™ PE-CF594 Rat IgG2b, κ Isotype Control (Cat. No. 562308, Left Panel) or with the BD Horizon™ PE-CF594 Rat Anti-Mouse CD44 antibody (Cat. No. 562464, Right Panel). Bivariate dot plots showing the correlated expression of CD44 (or Igotype Control staining) versus side scattered-light signals were derived from gated events based on the light scattering characteristics for viable bone marrow cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometry System.

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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™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594

were removed. Application Notes

Application

Application					
Flow cytometry Routinely Tested					
Suggested Compa	nion Products				
Catalog Number	Name		Size	Clone	
562308	PE-CF594 Rat IgG2b, κ Isotype Control		0.1 mg	A95-1	
554656	Stain Buffer (FBS)		500 ml	(none)	

Product Notices

- 1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
- 2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
- 3. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
- 4. 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.
- 5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
- 6. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
- 7. CFTM is a trademark of Biotium, Inc.
- 8. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
- 9. This product is provided under an Agreement between BIOTIUM and BD Biosciences. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications owned or licensed by Biotium, Inc. This product, and only in the amount purchased by buyer, may be used solely for buyer's own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. This product is for research use only. Diagnostic uses require a separate license from Biotium, Inc. For information on purchasing a license to this product including for purposes other than research, contact Biotium, Inc., 3159 Corporate Place, Hayward, CA 94545, Tel: (510) 265-1027. Fax: (510) 265-1352. Email: btinfo@biotium.com.
- 10. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CFTM594.
- 11. An isotype control should be used at the same concentration as the antibody of interest.
- 12. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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Weiss JM, Sleeman J, Renkl AC, et al. An essential role for CD44 variant isoforms in epidermal Langerhans cell and blood dendritic cell function. J Cell Biol. 1997; 137(5):1137-1147. (Clone-specific: Inhibition)

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