Technical Data Sheet

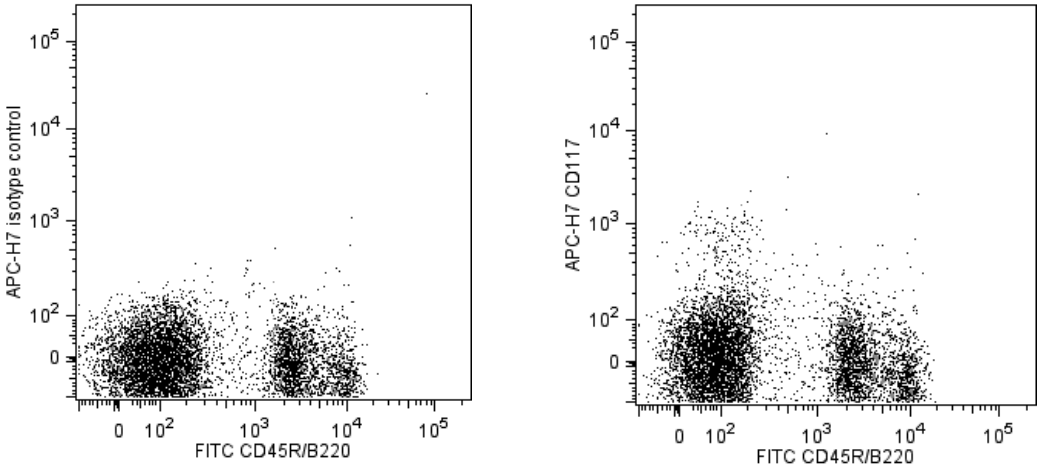
APC-H7 Rat anti-Mouse CD117

Product Information

Material Number:	**560250**
Alternate Name:	c-Kit
Size:	25 µg
Concentration:	0.2 mg/ml
Clone:	2B8
Immunogen:	Mouse Bone Marrow Mast Cells
Isotype:	Rat (WI) IgG2b, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 2B8 antibody reacts with CD117 (c-Kit), a transmembrane tyrosine-kinase receptor which is encoded by the *Kit* gene (formerly dominant white spotting, *W*). The c-Kit ligand (also known as steel factor, stem cell factor, and mast cell growth factor) encoded by the Kit1 gene (formerly steel, SI), is a co-mitogen for hematopoietic stem cells, myeloerythroid progenitors and a mast-cell differentiation factor. The KitW and Kit1SI mutant alleles have similar pleiotropic effects on the development of melanocytes, germ cells, and the hematopoietic system. In the adult bone marrow, CD117 is expressed on hematopoietic progenitor cells, including CD90 (Thy-1) low, TER-119-, CD45R/B220-, CD11b (Mac-1)-, Ly-6G (Gr-1)-, CD4-, CD8-, and Sca-1 (Ly-6A/E)+ multipotent hemotopoietic stem cells, progenitors committed to myeliod and/or erythroid lineages, and precursors of B and T lymphocytes. This widespread expression of CD117 in hematopoietic precursors is consistent with the participation of c-Kit and its ligand in the regulation of several hematopoietic lineages. Intrathymic expression of c-Kit and c-Kit ligand suggest that CD117 is also involved in the regulation of some events during the development of T lymphocytes. CD117 is also expressed by mast cells and by dendritic cells found in the periarteriolar lymphocytoc sheaths (T-cell areas) of splenic white pulp. The mAb 2B8 reportedly does not block the action of c-Kit. This clone 2B8 had been reported that there was cross-reactivity with rat.



Two-color analysis of the expression of CD117 on mouse bone marrow cells.
A single-cell suspension of C57BL/6 bone marrow was simultaneously stained with FITC-conjugated anti-mouse CD45R/B220 RA3-6B2 (clone RA3-6B2, Cat. No. 553087/553088, both panels) and APC-H7 -conjugated 2B8 (Cat. no. 560185/560250, right panel) or APC-H7 rat IgG2b isotype control (clone A95-1, Cat. No. 560200) monoclonal antibodies. Flow cytometry was performed on a BD™ LSR II flow cytometry system.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with APC-H7 under optimum conditions, and unconjugated antibody and APC-H7 were removed.
Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested

BD Biosciences

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Suggested Companion Products

Catalog Number	Name	Size	Clone
560200	APC-H7 Rat IgG2b, κ Isotype Control	0.1 mg	A95-1
553087	FITC Rat Anti-Mouse CD45R/B220	0.1 mg	RA3-6B2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. BD APC-H7 is a tandem conjugate and an analog of APC-Cy7 with the same spectral properties. It has decreased intensity but it is engineered for greater stability and less spillover in the APC channel and consequently offers better performance than APC-Cy7. It has an absorption maximum of approximately 650 nm. When excited by light from a red laser, the APC fluorochrome can transfer energy to the cyanine dye, which then emits at a longer wavelength. The resulting fluorescent emission maximum is approximately 767 nm. BD recommends that a 750-nm longpass filter be used along with a red-sensitive detector such as the Hamamatsu R3896 PMT. As with APC-Cy7 special filters are required when using APC-H7 in conjunction with APC.
   Note: Although our APC-H7 products demonstrate higher lot-to lot consistency than other APC tandem conjugate products, and every effort is made to minimize the lot-to-lot variation in residual emission from APC, it is strongly recommended that every lot be tested for differences in the amount of compensation required and that individual compensation controls are run for each APC-H7 conjugate.
   Note: Cy is a trademark of Amersham Biosciences Limited.
4. Although BD APC-H7 is engineered to minimize spillover to the APC channel and is more stable and less affected by light, temperature, and formaldehyde-based fixatives, compared to other APC-cyanine tandem dyes, it is still good practice to minimize as much as possible, any light, temperature and fixative exposure when working with all fluorescent conjugates.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. 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.

References

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