Technical Data Sheet

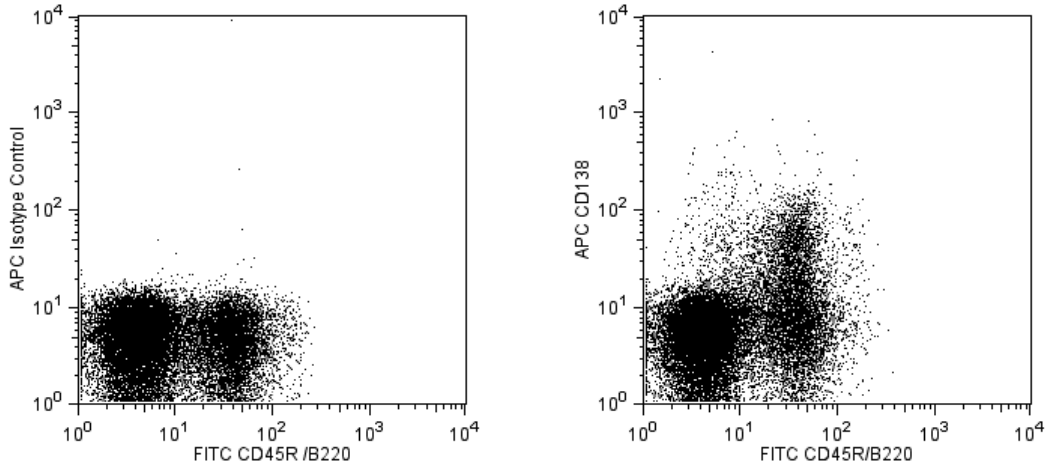
APC Rat anti-Mouse CD138

Product Information

Material Number:	**561705**
Alternate Name:	Syndecan-1
Size:	25 µg
Concentration:	0.2 mg/ml
Clone:	281-2
Immunogen:	NAMRU mouse mammary gland epithelial cell line NMuMG
Isotype:	Rat (F344) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 281-2 antibody reacts with the core protein of CD138 (Syndecan-1), a cell-surface, integral membrane heparan sulfate- and chondroitin sulfate-containing proteoglycan that binds to interstitial extracellular matrix molecules. Syndecan-1 is predominantly expressed on epithelial cells, where its expression correlates with normal epithelial organization. It is also expressed on B lymphocytes at specific stages during their differentiation: precursor B cells in the bone marrow and antibody-secreting cells, including plasma cells, but not mature peripheral B cells. It is thus implicated in mediating B cell-matrix interactions. CD138 expression is also regulated during embryonic development, and the molecule shows a tissue- specific structural polymorphism resulting from different post-translational modifications. The 281-2 antibody may be used to detect the differently glycosylated forms, because it reacts with the core protein. Furthermore, the mAb detects the Syndecan-1 ectodomain which is cleaved from cell surfaces by a metalloproteinase.



Expression of CD138 on mouse bone-marrow B lymphocytes. *C57BL/6 bone-marrow leukocytes were simultaneously stained with APC Rat ani-Mouse CD138 (Cat. No. 561705; Right Panel) or APC Rat IgG2a, κ Isotype Control (Cat. no. 553932; Left Panel) and FITC Rat Anti-Mouse CD45R/B220 (Cat. no. 553087; Both Panels). 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.

Application Notes

Application

Flow cytometry	Routinely Tested

BD Biosciences

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Suggested Companion Products

Catalog Number	Name	Size	Clone
553932	APC Rat IgG2a κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
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. 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. This APC-conjugated reagent can be used in any flow cytometer equipped with a dye, HeNe, or red diode laser.
5. An isotype control should be used at the same concentration as the antibody of interest.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Bernfield M, Kokenyesi R, Kato M, et al. Biology of the syndecans: a family of transmembrane heparan sulfate proteoglycans. *Annu Rev Cell Biol.* 1992; 8:365-393. (Biology)

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Jalkanen M, Nguyen H, Rapraeger A, Kurn N, Bernfield M. Heparan sulfate proteoglycans from mouse mammary epithelial cells: localization on the cell surface with a monoclonal antibody. *J Cell Biol.* 1985; 101(3):976-984. (Biology)

Sanderson RD, Lalor P, Bernfield M. B lymphocytes express and lose syndecan at specific stages of differentiation. *Cell Regul.* 1989; 1(1):27-35. (Biology)

Saunders S, Jalkanen M, O'Farrell S, Bernfield M. Molecular cloning of syndecan, an integral membrane proteoglycan. *J Cell Biol.* 1989; 108(4):1547-1556. (Biology)