Technical Data Sheet

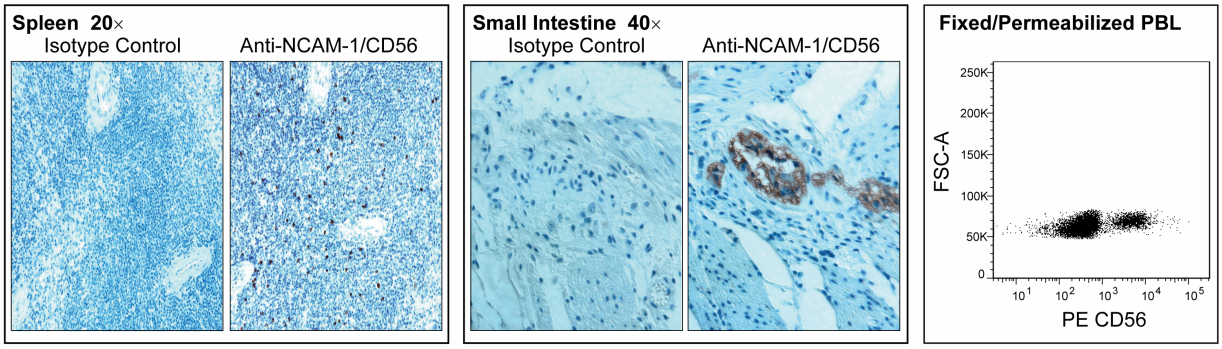
Purified Mouse Anti-Human NCAM-1 (CD56)

Product Information

Material Number:	**563237**
Alternate Name:	N-CAM-1, Neural cell adhesion molecule 1; NKH1; MSK39; Leu-19
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	R19-760
Immunogen:	Human NCAM1 Recombinant Protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The R19-760 monoclonal antibody specifically binds to NCAM-1 (Neural cell adhesion molecule 1) that is also known as CD56 and NKH1. NCAM-1 is a heavily glycosylated transmembrane protein and a member of the Ig supergene family. NCAM-1 represents an isoform of the neural cell adhesion molecule (NCAM). In the hematopoietic system, it is present on approximately 10% to 25% of peripheral blood lymphocytes. It is expressed on natural killer (NK) cells and a subset of T cells, NKT cells. It is not expressed on myeloid cells, erythrocytes or B cells. This molecule appears to function as an adhesion molecule and can serve as a panspecific NK-cell marker. The R19-760 antibody recognizes an epitope in the NCAM-1 (CD56) extracellular domain that resists destruction due to cellular fixation with BD Phosflow™ Lyse/Fix Buffer and permeabilization with BD Phosflow™ Perm Buffer III.



Analyses of NCAM-1 (CD56) expression by Immunohistochemistry and Flow Cytometry

Left Panel: *Immunohistochemical staining of human spleen for NCAM-1 (CD56). Following antigen retrieval with BD Retrievagen A Buffer (Cat. No. 550524), the formalin-fixed paraffin-embedded sections were stained with either Purified Mouse IgG1 κ Isotype Control (Cat. No. 550878; Left Image) or Purified Mouse Anti-Human NCAM-1 (CD56) antibody (Cat. No. 563237; Right Image). A three-step staining procedure that employs a Biotin Goat Anti-Mouse Immunoglobulin (Cat. No. 550337), Streptavidin-Horseradish Peroxidase (HRP) (Cat. No. 550946), and the DAB Substrate Kit (Cat. No. 550880) was used to develop the primary staining reagents. As shown in the Right Figure, the NCAM-1 (CD56)-specific antibody primarily surface stained some splenic lymphocytes. Original magnification: 20×.*

Middle Panel: *Immunohistochemical staining of human small intestine was performed as described above for the spleen. Staining of some neurons of the Myenteric plexus was observed. Original magnification: 40×.*

Right Panel: *Two-parameter flow cytometric analysis of NCAM-1 (CD56) expression by fixed and permeabilized human peripheral blood lymphocytes (PBL). Erythrocytes were lysed and leucocytes were fixed and permeabilized in a human whole blood sample using 1X BD Phosflow™ Lyse/Fix Buffer (Cat. No. 558049; 10 min, 37˚C) followed by BD Phosflow™ Perm Buffer III (Cat. No. 558050; 30 min, on ice). The leucocytes were then labeled with Purified Mouse Anti-Human NCAM-1 (CD56) antibody (Cat. No. 563237) followed by staining with PE Goat Anti-Mouse Ig (Cat. No.550589). The flow cytometric dot plot shows NCAM-1 (CD56) expression versus forward scattered light signals for gated events with the forward and side light-scatter characteristics of intact lymphocytes. Flow cytometry was performed on a BD FACSCanto™ II Flow Cytometry System.*

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Flow cytometry	Routinely Tested
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development

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Suggested Companion Products

Catalog Number	Name	Size	Clone
550878	Purified Mouse IgG1 κ Isotype Control	1.0 ml	MOPC-31C
550524	Retrievagen A (pH 6.0)	1000 ml	(none)
558049	Lyse/Fix Buffer 5X	250 ml	(none)
558050	Perm Buffer III	125 ml	(none)
550589	PE Goat Anti-Mouse Ig (Multiple Adsorption)	0.2 mg	Polyclonal
554656	Stain Buffer (FBS)	500 ml	(none)
550337	Biotin Goat Anti-Mouse Ig (Multiple Adsorption)	1.0 ml	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
3. 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.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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