Technical Data Sheet

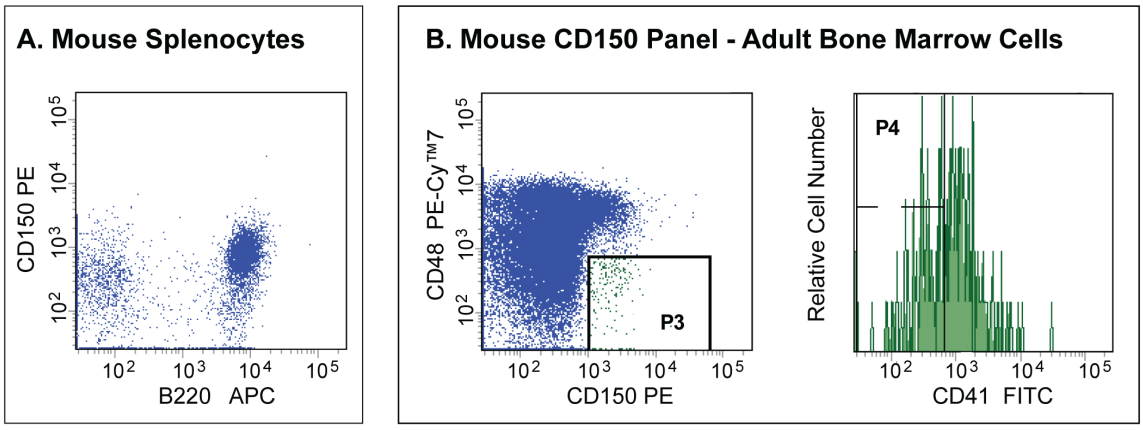
PE Rat anti-Mouse CD150

Product Information

Material Number:	**562651**
Alternate Name:	SLAM; Slamf1; Signaling lymphocytic activation molecule family member 1
Entrez Gene ID:	27218
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	Q38-480
Immunogen:	Mouse CD150 Recombinant Protein
Isotype:	Rat IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The Q38-480 monoclonal antibody specifically binds to mouse CD150, also known as SLAM (signaling lymphocyte activation molecule). CD150 is a type 1 transmembrane glycoprotein that is a member of the CD2 subfamily of the Ig superfamily. It is encoded by the *Slamf1* (signaling lymphocytic activation molecule family member 1) gene. CD150 is differentially expressed on subsets of thymocytes, T and B lymphocytes, dendritic cells, macrophages, and endothelial cells. SLAM plays multiple roles in innate and adaptive immunity serving as an adhesion molecule and/or coreceptor. CD150-mediated costimulation of TCR-activated T cells reportedly results in the increased production of IFN-γ by Th1 cells and is required for IL-4 production by T follicular helper cells. CD150 also plays important roles in hematopoietic cell developmental pathways. CD150 is differentially expressed by self-renewing adult hematopoietic stem cells (HSC) that are CD150+ whereas non-multipotent hematopoietic progenitor cells are CD150-. Utilizing additional cell surface markers, lineage-negative CD150+CD48-CD41- cell fractions are reported to be highly enriched for adult HSC.



Multicolor flow cytometric analysis of adult mouse spleen cells and bone marrow hematopoietic stem cells.

(Panel A) *BALB/c spleen cells were stained with APC Rat Anti-Mouse CD45R/B220 (Cat. No. 553092) and PE Rat Anti-Mouse CD150 (Cat. No. 562651), staining cells well above background compared to PE Rat IgG2a, κ isotype control (Cat. No. 557690) (data not shown). A two-color flow cytometric dot plot shows the expression of B220 versus CD150 expressed by events with the forward and side-light scattering characteristics of viable lymphocytes.*

(Panel B) *BALB/c mouse bone-marrow cells were labeled with the BD IMag™ Mouse Hematopoietic Progenitor Enrichment Set (Cat. No. 558451) and separated on the BD IMagnet™ (Cat. No. 552311) according to the set protocol. The non-depleted bone marrow cells were subsequently stained with BD Horizon™ V450 Mouse Lineage Antibody Cocktail (Cat. No. 561301) and FITC Rat Anti-Mouse CD41 (Cat. No. 553848/561849), PE-Cy™7 Hamster Anti-Mouse CD48 (Cat. No. 560731), and PE Rat Anti-Mouse CD150 antibodies. A fluorescence histogram (Right Plot) shows little or no CD41 expression (P4 Gate) by bone marrow cells that were progressively gated as viable (light scatter gated), Lineage-negative and CD48- CD150+ (Middle Plot, P3 Gate) cells. Lineage- CD48- CD150+ bone marrow cells have been reported to be highly enriched for adult mouse hematopoietic stem cells.*

Flow cytometry was performed using a BD™ LSR II Flow Cytometer 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 R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554689	PE Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
560731	PE-Cy™7 Hamster Anti-Mouse CD48	50 µg	HM48-1
561849	FITC Rat Anti-Mouse CD41	50 µg	MWReg30
553092	APC Rat Anti-Mouse CD45R/B220	0.1 mg	RA3-6B2
561301	V450 Mouse Lineage Antibody Cocktail, with Isotype Control	100 tests	(none)
558451	Mouse Hematopoietic Progenitor (Stem) Cell Enrichment Set - DM	5.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
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. Cy is a trademark of Amersham Biosciences Limited.

References

Castro AG, Hauser TM, Cocks BG, et al. Molecular and functional characterization of mouse signaling lymphocytic activation molecule (SLAM): differential expression and responsiveness in Th1 and Th2 cells. *J Immunol.* 1999; 163(11):5860-5870. (Biology)

Kiel MJ, Yilmaz OH, Iwashita T, Terhorst C, Morrison SJ. SLAM family receptors distinguish hematopoietic stem and progenitor cells and reveal endothelial niches for stem cells. *Cell.* 2005; 121(7):1109-1121. (Biology)

Wang N, Satoskar A, Faubion W, et al. The cell surface receptor SLAM controls T cell and macrophage functions. *J Exp Med.* 2004; 199(9):1255-1264. (Biology)

Yusuf I, Kageyama R, Monticelli L, Johnston RJ, Ditoro D, Hansen K, Barnett B, Crotty S. Germinal center T follicular helper cell IL-4 production is dependent on signaling lymphocytic activation molecule receptor (CD150). *J Immunol.* 2010; 185(1):190-202. (Biology)

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