

Antibodies

Catalog #60032AD

Anti-Mouse Sca1 Antibody, Clone E13-161.7, Alexa Fluor® 488

Rat monoclonal IgG2a antibody
against mouse Sca1 (Ly-6A/E), Alexa
Fluor® 488-conjugated

100 µg 0.5 mg/mL



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Product Description

The E13-161.7 antibody reacts with Sca1 (stem cell antigen-1 or Ly-6A/E), an 18 kDa GPI-linked protein belonging to the lymphocyte activation protein-6 (Ly-6) family. Sca1 is expressed on the surface of hematopoietic stem and progenitor cells, myeloid cells, and peripheral B and T lymphocytes. Sca1 is expressed by mice with either the Ly-6.1 or Ly-6.2 allotypes, but the pattern of expression differs in the circulating cell population according to the allotype. Ly-6.2 strains (e.g. AKR, C57BL, C57BR, C57L, DBA/2, PL, SJL, SWR, 129) possess relatively high numbers of Sca1+ resting lymphocytes compared to Ly-6.1 strains (e.g. A, BALB/c, CBA, C3H/He, DBA/1, NZB). Sca1 expression levels are strongly upregulated in all strains upon cellular activation. Sca1 is involved in the regulation of T and B cell responses and is believed to play roles in the differentiation, proliferation, and survival of a variety of stem cells. Sca1 has emerged as a phenotypic marker of choice for identifying and isolating hematopoietic stem and progenitor cells.

Target Antigen Name:	Sca1 (Ly-6A/E)
Alternative Names:	Ly-6A/E, Sca-1
Gene ID:	110454
Species Reactivity:	Mouse
Host Species:	Rat
Clonality:	Monoclonal
Clone:	E13-161.7
Isotype:	IgG2a, kappa
Immunogen:	Mouse pre-T cells
Conjugate:	Alexa Fluor® 488

Applications

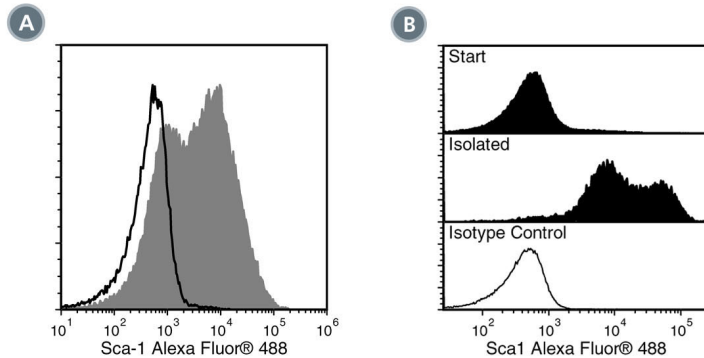
Verified:	FC
Reported:	FC, IF, IHC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Mouse SCA1 Positive Selection Kit (Catalog #18756).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions. The solution is free of unconjugated Alexa Fluor® 488.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com .
Directions for Use:	For flow cytometry, the suggested use of this antibody is $\leq 0.25 \mu\text{g}$ per 1×10^6 cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of C57BL/6 mouse splenocytes labeled with Anti-Mouse Sca1 Antibody, Clone E13-161.7, Alexa Fluor® 488 (filled histogram) or a rat IgG2a, kappa Alexa Fluor® 488 isotype control antibody (solid line histogram).

(B) Flow cytometry analysis of C57BL/6 mouse bone marrow cells pre-labeled with Anti-Mouse Sca1 Antibody, Clone E13-161.7, Alexa Fluor® 488 and processed with the EasySep™ Mouse SCA1 Positive Selection Kit (Catalog #18756). Histograms show labeling of bone marrow (Start) and isolated cells (Isolated). Labeling of start cells with a rat IgG2a, kappa Alexa Fluor® 488 isotype control antibody is shown (solid line histogram).

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Treviño-Villarreal JH et al. (2011) Host-derived pericytes and Sca-1+ cells predominate in the MART-1- stroma fraction of experimentally induced melanoma. *J Histochem Cytochem* 59(12): 1060–75. (FC, IHC)
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4. van de Rijn M et al. (1989) Mouse hematopoietic stem-cell antigen Sca-1 is a member of the Ly-6 antigen family. *Proc Natl Acad Sci USA* 86(12): 4634–8. (FC, IHC, IP)
5. Spangrude GJ et al. (1988) The stem cell antigens Sca-1 and Sca-2 subdivide thymic and peripheral T lymphocytes into unique subsets. *J Immunol* 141(11): 3697–707. (IHC)
6. Aihara Y et al. (1986) An attempt to produce “pre-T” cell hybridomas and to identify their antigens. *Eur J Immunol* 16(11): 1391–9. (FA)
7. Malek TR et al. (1986) Role of Ly-6 in lymphocyte activation. II. Induction of T cell activation by monoclonal anti-Ly-6 antibodies. *J Exp Med* 164(3): 709–22.
8. Ortega G et al. (1986) Role of Ly-6 in lymphocyte activation. I. Characterization of a monoclonal antibody to a nonpolymorphic Ly-6 specificity. *J Immunol* 137(10): 3240–6.

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