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 ≤ 0.25 μg per 1 x 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**

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)