

DESCRIPTION

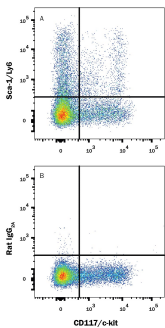
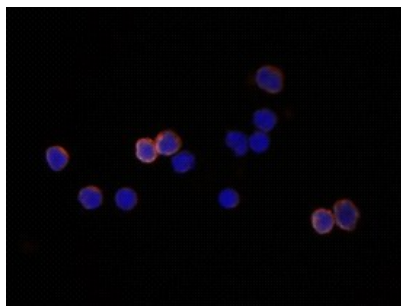
Species Reactivity	Mouse
Specificity	Detects mouse Sca-1/Ly6 in direct ELISAs.
Source	Monoclonal Rat IgG _{2A} Clone # 177228
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Sca-1/Ly6 C-terminally truncated Ly-6E allele Leu27-Gly119 Accession # CAA28351
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Immunocytochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

<p>Flow Cytometry</p>  <p>Detection of Sca-1/Ly6 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes gated on hematopoietic lineage negative cells were stained with Rat Anti-Mouse CD117/c-kit PE-conjugated Monoclonal Antibody (Catalog # FAB1356P) and either (A) Rat Anti-Mouse Sca-1/Ly6 Monoclonal Antibody (Catalog # MAB1226) or (B) Rat IgG_{2A} Isotype Control (Catalog # MAB006) followed by Phycoerythrin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0105B).</p>	<p>Immunocytochemistry</p>  <p>Sca-1/Ly6 in Mouse Splenocytes. Sca-1/Ly6 was detected in immersion fixed mouse splenocytes using 10 µg/mL Rat Anti-Mouse Sca-1/Ly6 Monoclonal Antibody (Catalog # MAB1226) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Stem Cell Antigen-1 (Sca-1) is encoded by the strain-specific *Ly-6 E/A* allelic gene. Its expression on multipotent hematopoietic stem cells (HSC) has been used as a marker of HSC in mice of both Ly-6 haplotypes (2, 3). This antibody is frequently used in combination with lineage depletion antibodies to identify and isolate murine HSC. Sca-1-positive HSC can be found in the adult bone marrow, fetal liver and mobilized peripheral blood and spleen in the adult animal (2-7). However, Sca-1 has also been discovered in several non-hematopoietic tissues (1) and can be used to enrich progenitor cell populations other than HSC (8). It is suggested that Sca-1 could be involved in regulating both B and T cell activation (9-12).

References:

1. Van de Rijn, M. *et al.* (1989) *Proc. Natl. Acad. Sci. USA* **86**:4634.
2. Spangrude, G.I. *et al.* (1988) *Science* **241**:58.
3. Spangrude, G.I. *et al.* (1993) *Blood* **82**:3327.
4. Morrison, S.J. *et al.* (1995) *Proc. Natl. Acad. Sci. USA* **92**:10302.
5. Kawamoto, H. *et al.* (1997) *Int. Immunol.* **9**:1011.
6. Yamamoto, Y. *et al.* (1996) *Blood* **88**:445.
7. Morrison, S.J. *et al.* (1997) *Proc. Natl. Acad. Sci. USA* **94**:1908.
8. Welm, B.E. *et al.* (2002) *Dev. Biol.* **245**:42.
9. Codias, E.K. *et al.* (1990) *J. Immunol.* **144**:2197.
10. Malek, T.R. *et al.* (1986) *J. Exp. Med.* **164**:709.
11. Codias, E.K. *et al.* (1990) *J. Immunol.* **145**:1407.
12. Flood, P.M. *et al.* (1990) *J. Exp. Med.* **172**:115.