

Alexa Fluor® 488 anti-mouse Ly-6A/E (Sca-1) Antibody

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| Catalog# / Size | 108115 / 25 µg 108116 / 100 µg |
| Clone | D7 |
| Regulatory Status | RUO |
| Other Names | Sca-1 |
| Isotype | Rat IgG2a, κ |
| Description | Ly-6A/E, also known as Sca-1, is an 18 kD member of the Ly-6 multigene family. Ly6A/E is a glycosylphosphatidylinositol (GPI)-linked protein expressed on hematopoietic stem cells. In mice expressing the Ly-6.2 haplotype (e.g., AKR, C57BL, C57BR, DBA/2, SJL, SWR, and 129), Ly-6A/E is also expressed on peripheral B lymphocytes and thymic and peripheral T lymphocytes. Strains expressing the Ly-6.1 haplotype (e.g., BALB/c, CBA, C3H/He, DBA/1, and NZB) have low Ly-6A/E expression on resting peripheral lymphocytes. The expression of Ly-6A/E on lymphocytes is upregulated upon activation from both Ly6.1 and Ly6.2 haplotype mice. Ly-6A/E is thought to be involved in the regulation of both T and B cell responses. |

Product Details

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| Verified Reactivity | Mouse |
| Antibody Type | Monoclonal |
| Host Species | Rat |
| Immunogen | IL-2-dependent mouse T-cell line (CTL-L) |
| Formulation | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide. |
| Preparation | The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions. |
| Concentration | 0.5 mg/mL |
| Storage & Handling | The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze. |
| Application | FC - Quality tested |
| Recommended Usage | Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤ 0.25 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses |
| Excitation Laser | Blue Laser (488 nm) |
| Application Notes | The D7 antibody has been reported to induce T cell activation and inhibit TCR-induced IL-2 production. Additional reported applications (for the relevant formats) include: Western blotting ^{1,2} , immunoprecipitation ¹ , <i>in vitro</i> lymphocyte activation ³⁻⁶ , induction of redirected lysis ⁷ , induction of T cell inhibitory signalling ⁸ , immunofluorescence ⁹ , and immunohistochemical staining of acetone-fixed frozen sections ¹³ and Bouin-fixed, paraffin-embedded samples ⁹ . The two Sca-1 recognizing clones D7 and E13-161.7 have been shown to bind distinct epitopes due to the inability of D7 to block the binding of E13-161.7. ¹⁴ |
| Application References | 1. Ortega G, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:3240. (WB, IP) |

(PubMed link indicates BioLegend citation)

2. Palfree RGE, *et al.* 1986. *Immunogenetics* 23:197. (WB)
3. Codias EK, *et al.* 1990. *J. Immunol.* 144:2197.
4. Malek TR, *et al.* 1986. *J. Exp. Med.* 164:709.
5. Codias EK, *et al.* 1990. *J. Immunol.* 145:1407.
6. Ivanov V, *et al.* 1994. *J. Immunol.* 153:2394.
7. Karlhofer FM, *et al.* 1991. *J. Immunol.* 146:3662.
8. Fleming T, *et al.* 1994. *J. Immunol.* 153:1955.
9. van Bragt MPA, *et al.* 2005. *Biol. Reprod.* 73:634. (IF, IHC)
10. Umland O, *et al.* 2007. *J. Immunol.* 178:4147.
11. Cridland SO, *et al.* 2009. *Blood Cell. Mol. Dis.* 45:149. (FC) [PubMed](#)
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13. English A, *et al.* 2000. *J. Immunol.* 165:3763. (IHC)
14. Bamezai A and Rock KL. 1995. *Proc. Natl. Acad. Sci. USA* 92:4294.
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Product Citations

1. Comazzetto S *et al.* 2018. *Cell stem cell.* 24(3):477-486 . [PubMed](#)
2. Harnett MM, *et al.* 2022. *Front Immunol.* 13:953053. [PubMed](#)
3. Shen YC, *et al.* 2021. *Nat Commun.* 12:3876. [PubMed](#)
4. Zhuo Y, *et al.* 2018. *Oncol Rep.* 40:2147. [PubMed](#)
5. Sakamoto K, *et al.* 2021. *Immunity.* 54:2321. [PubMed](#)
6. Parmar N, *et al.* 2021. *PLoS Pathog.* 17:e1009476. [PubMed](#)
7. Spiljar M, *et al.* 2021. *Cell Metab.* 33:2231. [PubMed](#)

RRID

AB_493270 (BioLegend Cat. No. 108115)
AB_493269 (BioLegend Cat. No. 108116)

Antigen Details

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|---------------------------|---|
| Structure | Ly-6 multigene family, 18 kD |
| Distribution | Hematopoietic stem cells, activated T cells and B cells, subset of resting B cells and T cells |
| Function | Regulates B and T cell responses |
| Cell Type | B cells, Hematopoietic stem and progenitors, Mesenchymal Stem Cells, T cells |
| Biology Area | Immunology, Stem Cells |
| Antigen References | <ol style="list-style-type: none">1. Rock KL, <i>et al.</i> 1989. <i>Immunol. Rev.</i> 111:195.2. Morrison SJ, <i>et al.</i> 1994. <i>Immunity</i> 1:661.3. Spangrude GJ, <i>et al.</i> 1988. <i>J. Immunol.</i> 141:3697.4. Malek T, <i>et al.</i> 1986. <i>J. Exp. Med.</i> 164:709. |
| Gene ID | 110454 |

Related Protocols

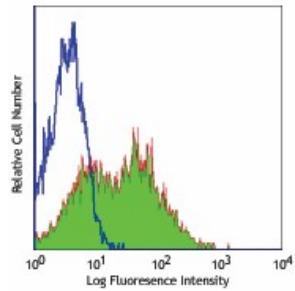
[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-mouse Ly-6A/E (Sca-1), Biotin anti-mouse Ly-6A/E (Sca-1), FITC anti-mouse Ly-6A/E (Sca-1), PE anti-mouse Ly-6A/E (Sca-1), PE/Cyanine5 anti-mouse Ly-6A/E (Sca-1), Purified anti-mouse Ly-6A/E (Sca-1), PE/Cyanine7 anti-mouse Ly-6A/E (Sca-1), Alexa Fluor® 488 anti-mouse Ly-6A/E (Sca-1), Alexa Fluor® 647 anti-mouse Ly-6A/E (Sca-1), Pacific Blue™ anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 421™ anti-mouse Ly-6A/E (Sca-1), PerCP anti-mouse Ly-6A/E (Sca-1), PerCP/Cyanine5.5 anti-mouse Ly-6A/E (Sca-1), APC/Cyanine7 anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 510™ anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 711™ anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 605™ anti-mouse Ly-6A/E (Sca-1), Purified anti-mouse Ly-6A/E (Sca-1) (Maxpar® Ready), PE/Dazzle™ 594 anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 785™ anti-mouse Ly-6A/E (Sca-1), Alexa Fluor® 700 anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 650™ anti-mouse Ly-6A/E (Sca-1), APC/Fire™ 750 anti-mouse Ly-6A/E (Sca-1), TotalSeq™-A0130 anti-mouse Ly-6A/E (Sca-1), TotalSeq™-B0130 anti-mouse Ly-6A/E (Sca-1), TotalSeq™-C0130 anti-mouse Ly-6A/E (Sca-1)

Product Data

C57BL/6 mouse splenocytes stained
with D7 Alexa Fluor® 488



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