

FITC anti-mouse Ly-6A/E (Sca-1) Antibody

Catalog# / Size	108105 / 50 µg 108106 / 500 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

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 FITC 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 ≤1.0 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.
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	<ol style="list-style-type: none"> Ortega G, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:3240. (WB, IP) Palfree RGE, <i>et al.</i> 1986. <i>Immunogenetics</i> 23:197. (WB) Codias EK, <i>et al.</i> 1990. <i>J. Immunol.</i> 144:2197. Malek TR, <i>et al.</i> 1986. <i>J. Exp. Med.</i> 164:709. Codias EK, <i>et al.</i> 1990. <i>J. Immunol.</i> 145:1407. Ivanov V, <i>et al.</i> 1994. <i>J. Immunol.</i> 153:2394. Karlhofer FM, <i>et al.</i> 1991. <i>J. Immunol.</i> 146:3662.
(PubMed link indicates BioLegend citation)	

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](#)
12. Pronk CJ, *et al.* 2011. *J. Exp Med.* [PubMed](#)
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.
15. Wiesner DL, *et al.* 2015. *PLoS Pathog.* 11:1004701. [PubMed](#)

Product Citations

1. Ludwik KA, *et al.* 2020. *Cell Reports.* 32(3):107931. [PubMed](#)
2. Johnson KD, *et al.* 2022. *Blood Adv.* 6:1464. [PubMed](#)
3. Yamaguchi A, *et al.* 2021. *Genes Cells.* 26:782. [PubMed](#)
4. Bowers E, *et al.* 2018. *Nat Med.* 24:95. [PubMed](#)
5. Mittal S, *et al.* 2016. *Stem Cell Reports.* 7:583-590. [PubMed](#)
6. Hughes RM, *et al.* 2020. *Cancer Research.* 79(14):3636-3650.. [PubMed](#)
7. Dey A *et al.* 2019. *The EMBO journal.* 38(7) pii: e100293. [PubMed](#)
8. Cha S, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
9. Stivala S, *et al.* 2019. *J Clin Invest.* 130:1596. [PubMed](#)
10. Yang SH, *et al.* 2017. *Front Immunol.* 8:1192. [PubMed](#)
11. He X, *et al.* 2021. *Adv Sci (Weinh).* 8:e2103023. [PubMed](#)
12. Wu L, *et al.* 2022. *Theranostics.* 12:842. [PubMed](#)
13. Lima-Junior DS, *et al.* 2021. *Cell.* . [PubMed](#)
14. Zhang H, *et al.* 2019. *Mol Cell.* 76:110. [PubMed](#)
15. Zhou J, *et al.* 2019. *Nat Commun.* 10:2427. [PubMed](#)
16. Kim JH, *et al.* 2021. *J Cachexia Sarcopenia Muscle.* 12:177. [PubMed](#)
17. Kim J, *et al.* 2016. *Nat Cell Biol.* 18:930-940. [PubMed](#)
18. Zheng X, *et al.* 2015. *Cell Rep.* 13:1505-1518. [PubMed](#)
19. Kanemaru K, *et al.* 2015. *PLoS One.* 10: 0144436. [PubMed](#)
20. Ghosh D, *et al.* 2016. *J Immunol.* 197: 1788 - 1800. [PubMed](#)
21. Deng P, *et al.* 2021. *Cell Stem Cell.* 28(6):1057-1073.e7. [PubMed](#)
22. Bao Z, *et al.* 2020. *Ann Transplant.* 25:e921287. [PubMed](#)
23. Bajarfa S, *et al.* 2022. *iScience.* 25:103732. [PubMed](#)
24. Koide S, *et al.* 2022. *iScience.* 25:103603. [PubMed](#)
25. Wilkinson AC, *et al.* 2019. *Nature.* 571:117. [PubMed](#)
26. Woods B, *et al.* 2019. *Clin Cancer Res.* 25:5901. [PubMed](#)
27. Halvarsson C, *et al.* 2019. *Antioxid Redox Signal.* 31:211. [PubMed](#)
28. Radulovic V, *et al.* 2020. *Cell Reports.* 27(10):2826-2836.e5.. [PubMed](#)
29. Dourcy M, *et al.* 2020. *Mucosal Immunol.* 13:799. [PubMed](#)

RRID

AB_313342 (BioLegend Cat. No. 108105)
 AB_313343 (BioLegend Cat. No. 108106)

Antigen Details

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

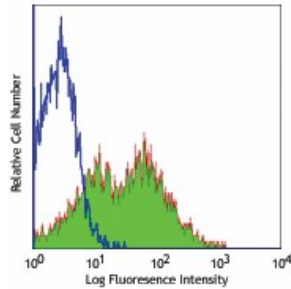
Related Protocols

[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 FITC

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587