

PE/Fire™ 744 anti-mouse Ly-6A/E (Sca-1) Antibody

Catalog# / Size	108161 / 25 µg 108162 / 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

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 PE/Fire™ 744 under optimal conditions.
Concentration	0.2 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 ≤ 0.03 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. True-Stain Monocyte Blocker™ (Cat No. 426102) is recommended to minimize non-specific staining of PE/Fire™ 744 on monocytes and macrophages. * PE/Fire™ 744 has a maximum excitation of 565 nm and a maximum emission of 744 nm.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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

(PubMed link indicates
BioLegend citation)

1. Ortega G, *et al.* 1986. *J. Immunol.* 137:3240. (WB, IP)
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](#)
12. Pronk CJ, *et al.* 2011. *J. Exp Med.* [PubMed](#)

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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	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

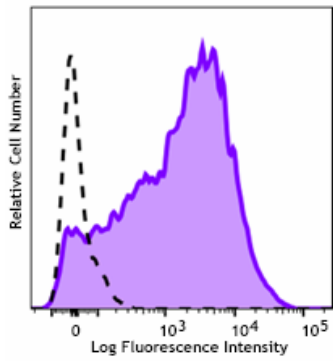
Related Protocols

- [Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-mouse Ly-6A/E (Sca-1), PE/Cyanine5 anti-mouse Ly-6A/E (Sca-1), Purified anti-mouse Ly-6A/E (Sca-1) (Maxpar® Ready), 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/Cyanine7 anti-mouse Ly-6A/E (Sca-1), APC 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), Brilliant Violet 421™ 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), Spark NIR™ 685 anti-mouse Ly-6A/E (Sca-1), Spark PLUS UV395™ anti-mouse Ly-6A/E (Sca-1), PerCP/Fire™ 806 anti-mouse Ly-6A/E (Sca-1) Antibody, PE/Dazzle™ 594 anti-mouse Ly-6A/E (Sca-1), Spark YG™ 581 anti-mouse Ly-6A/E (Sca-1) (Flexi-Fluor™), Spark YG™ 593 anti-mouse Ly-6A/E (Sca-1) (Flexi-Fluor™), Alexa Fluor® 488 anti-mouse Ly-6A/E (Sca-1), Pacific Blue™ anti-mouse Ly-6A/E (Sca-1), PE/Cyanine7 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), TotalSeq™-A0130 anti-mouse Ly-6A/E (Sca-1), APC/Fire™ 750 anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 750™ anti-mouse Ly-6A/E (Sca-1), Spark UV™ 387 anti-mouse Ly-6A/E (Sca-1) (Flexi-Fluor™), PE/Fire™ 744 anti-mouse Ly-6A/E (Sca-1) Antibody, Alexa Fluor® 647 anti-mouse Ly-6A/E (Sca-1), TotalSeq™-B0130 anti-mouse Ly-6A/E (Sca-1), Brilliant Violet 510™ anti-mouse Ly-6A/E (Sca-1), TotalSeq™-C0130 anti-mouse Ly-6A/E (Sca-1)

Product Data



C57BL/6 mouse splenocytes were stained with anti-mouse Ly-6A/E (Sca-1) (clone D7) PE/Fire™ 744 (filled histogram) or rat IgG2a, κ PE/Fire™ 744 isotype control (open histogram).

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