Pacific Blue™ anti-mouse Ly-6A/E (Sca-1) Antibody

Catalog# / Size	108119 / 25 µg 108120 / 100 µg
Clone	D7
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

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 Pacific Blue™ under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The Ly-6A/E 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. The suggested use of this reagent is ≤ 1.0 µg per 10^6 cells in 100 µl volume. It is highly recommended that the reagent be titrated for optimal performance for each application. * Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm. Prior to using Pacific Blue™ conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.
Excitation Laser	Violet Laser (405 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], *in vitro* 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

Product Citations

1. Agarwal A, et al. 2008. Blood. 112:1960. PubMed
2. Grassinger J, et al. 2009. Blood. 114:49:00. PubMed
3. Nemeth M, et al. 2009. Stem Cells. 27:1109. PubMed
4. Sabnis A, et al. 2009. PLoS One. 7:e59. PubMed
5. Aguilo F, et al. 2011. Blood. 117:5057. PubMed
6. Torreggiani E, et al. 2013. PLoS One. 8:75204. PubMed
7. Ambrosio F, et al. 2014. Free Radic Biol Med. 74:64. PubMed
8. Karamitros D, et al. 2015. Development. 142:70. PubMed
9. Alvarez S, et al. 2015. Nat Commun. 6: 8548. PubMed
10. Lebert-Ghali C, et al. 2016. Blood. 127: 87-90. PubMed
11. Pietras E, et al. 2016. Nat Cell Biol. 10.1038/ncb3346. PubMed
12. Quarta M, et al. 2016. Nat Biotechnol. 10.1038/nbt.3576. PubMed

RRID

AB_493274 (BioLegend Cat. No. 108119)
AB_493273 (BioLegend Cat. No. 108120)

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, et al. 1989. Immunol. Rev. 111:195.
2. Morrison SJ, et al. 1994. Immunity 1:661.
3. Spangrude GJ, et al. 1988. J. Immunol. 141:3697.
4. Malek T, et al. 1986. J. Exp. Med. 164:709.

Gene ID 110454

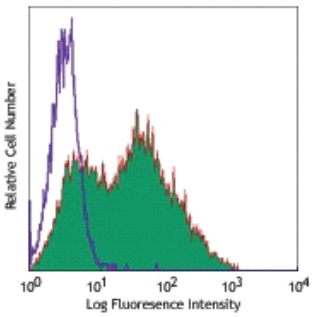
Related Protocols

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), 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 Pacific Blue™ D7

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