

Spark PLUS YG581™ anti-mouse CD8a Antibody

Catalog# / Size	104023 / 25 µg 104024 / 100 µg
Clone	53-6.7
Regulatory Status	RUO
Other Names	T8, Lyt2, Ly-2
Isotype	Rat IgG2a, κ
Description	CD8, also known as Lyt-2, Ly-2, or T8, consists of disulfide-linked α and β chains that form the α(CD8a)/β(CD8b) heterodimer and α/α homodimer. CD8a is a 34 kD protein that belongs to the immunoglobulin family. The CD8 α/β heterodimer is expressed on the surface of most thymocytes and a subset of mature TCR α/β T cells. CD8 expression on mature T cells is non-overlapping with CD4. The CD8 α/α homodimer is expressed on a subset of γ/δ TCR-bearing T cells, NK cells, intestinal intraepithelial lymphocytes, and lymphoid dendritic cells. CD8 is an antigen co-receptor on T cells that interacts with MHC class I on antigen-presenting cells or epithelial cells. CD8 promotes T cell activation through its association with the TCR complex and protein tyrosine kinase lck.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Mouse thymus or spleen
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with Spark PLUS YG581™ 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 ≤ 0.25 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. * Spark PLUS YG581™ has a maximum excitation of 562 nm and a maximum emission of 581 nm.
Excitation Laser	Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	Clone 53-6.7 antibody competes with clone 5H10-1 antibody for binding to thymocytes ³ . The 53-6.7 antibody has been reported to block antigen presentation via MHC class I and inhibit T cell responses to IL-2. This antibody has also been used for depletion of CD8a ⁺ cells. Additional reported applications (for the relevant formats) include: immunoprecipitation ^{1,3} , <i>in vivo</i> and <i>in vitro</i> cell depletion ^{2,10,15} , inhibition of CD8 T cell proliferation ³ , blocking of cytotoxicity ^{3,4} , immunohistochemical staining ^{5,6} of acetone-fixed frozen sections and zinc-fixed paraffin-embedded sections, and spatial biology (IBEX) ^{29,30} . Clone 53-6.7 is not recommended for immunohistochemistry of formalin-fixed paraffin sections. The Ultra-LEAF™ purified antibody

(Endotoxin < 0.01 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays or in vivo studies (Cat No. 100746).

Application References

(PubMed link indicates BioLegend citation)

1. Ledbetter JA, *et al.* 1979. *Immunol. Rev.* 47:63. (IHC, IP)
2. Hathcock KS. 1991. *Current Protocols in Immunology*. 3.4.1. (Deplete)
3. Takahashi K, *et al.* 1992. *P. Natl. Acad. Sci. USA* 89:5557. (Block, IP)
4. Ledbetter JA, *et al.* 1981. *J. Exp. Med.* 153:1503. (Block)
5. Hata H, *et al.* 2004. *J. Clin. Invest.* 114:582. (IHC)
6. Fan WY, *et al.* 2001. *Exp. Biol. Med.* 226:1045. (IHC)
7. Shih FF, *et al.* 2006. *J. Immunol.* 176:3438. (FC)
8. Kamimura D, *et al.* 2006. *J. Immunol.* 177:306.
9. Bouwer HGA, *et al.* 2006. *P. Natl. Acad. Sci. USA* 103:5102. (FC, Deplete)
10. Kao C, *et al.* 2005. *Int. Immunol.* 17:1607. [PubMed](#)
11. Ko SY, *et al.* 2005. *J. Immunol.* 175:3309. (FC) [PubMed](#)
12. Rasmussen JW, *et al.* 2006. *Infect. Immun.* 74:6590. [PubMed](#)

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Antigen Details

Structure	Ig superfamily, CD8α chain, 34 kD
Distribution	Most thymocytes, T cell subset, some NK cells, lymphoid dendritic cells
Function	Co-receptor for TCR
Ligand/Receptor	MHC class I molecule
Antigen References	1. Barclay A, <i>et al.</i> 1997. The Leukocyte Antigen FactsBook Academic Press. 2. Zamoyska R. 1994. <i>Immunity</i> 1:243. 3. Ellmeier W, <i>et al.</i> 1999. <i>Annu. Rev. Immunol.</i> 17:523.
Gene ID	12525

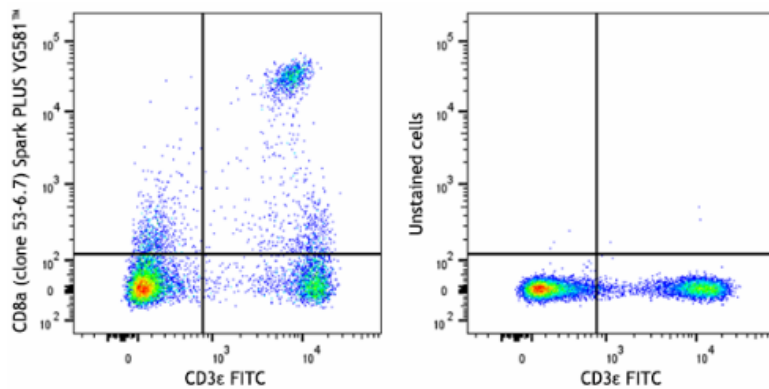
Related Protocols

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

Other Formats

Spark Blue™ 574 anti-mouse CD8a Antibody, Spark UV™ 387 anti-mouse CD8a, APC/Cyanine7 anti-mouse CD8a, Spark Blue™ 515 anti-mouse CD8a, Spark Violet™ 423 anti-mouse CD8a Antibody, PE/Fire™ 810 anti-mouse CD8a, Spark Red™ 718 anti-mouse CD8a (Flexi-Fluor™), APC/Fire™ 750 anti-mouse CD8a, APC anti-mouse CD8a, FITC anti-mouse CD8a, Biotin anti-mouse CD8a, Brilliant Violet 421™ anti-mouse CD8a, Brilliant Violet 650™ anti-mouse CD8a, Brilliant Violet 570™ anti-mouse CD8a, Purified anti-mouse CD8a (Maxpar® Ready), Alexa Fluor® 594 anti-mouse CD8a, Spark PLUS UV395™ anti-mouse CD8a, APC/Fire™ 810 anti-mouse CD8a, Spark YG™ 593 anti-mouse CD8a (Flexi-Fluor™) Antibody, StarBright UltraViolet 575 anti-mouse CD8a, PE/Dazzle™ 594 anti-mouse CD8a, Pacific Blue™ anti-mouse CD8a, Alexa Fluor® 700 anti-mouse CD8a, PerCP anti-mouse CD8a, PerCP/Cyanine5.5 anti-mouse CD8a, GolnVivo™ Purified anti-mouse CD8a, PE/Fire™ 700 anti-mouse CD8a, Brilliant Violet 711™ anti-mouse CD8a, Brilliant Violet 785™ anti-mouse CD8a, Spark YG™ 581 anti-mouse CD8a (Flexi-Fluor™), TotalSeq™-A0002 anti-mouse CD8a, Spark NIR™ 685 anti-mouse CD8a, PE/Cyanine7 anti-mouse CD8a, PE/Fire™ 640 anti-mouse CD8a, Brilliant Violet 605™ anti-mouse CD8a, Ultra-LEAF™ Purified anti-mouse CD8a, Brilliant Violet 510™ anti-mouse CD8a, PerCP/Fire™ 780 anti-mouse CD8a, Alexa Fluor® 488 anti-mouse CD8a, Alexa Fluor® 647 anti-mouse CD8a, Spark PLUS V475™ anti-mouse CD8a, StarBright UltraViolet 795 anti-mouse CD8a, Spark PLUS YG581™ anti-mouse CD8a, PE anti-mouse CD8a, PE/Cyanine5 anti-mouse CD8a, Purified anti-mouse CD8a, Spark Blue™ 550 anti-mouse CD8a, TotalSeq™-C0002 anti-mouse CD8a, TotalSeq™-B0002 anti-mouse CD8a, Spark YG™ 570 anti-mouse CD8a

Product Data



C57BL/6 mouse splenocytes were stained with anti-mouse CD3ε (clone 145-2C11) FITC and anti-mouse CD8a (clone 53-6.7) Spark PLUS YG581™ (left) or stained with anti-mouse CD3ε (clone 145-2C11) FITC only (right).

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