

## Anti-Mouse CD19 Antibody, Clone 1D3



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## Antibodies

Rat monoclonal IgG2a antibody  
against mouse CD19, unconjugated

Catalog #60112  
#60112.1

500 µg 0.5 mg/mL  
100 µg 0.5 mg/mL

FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.

## Product Description

The 1D3 antibody reacts with mouse CD19, an ~95 kDa type 1 transmembrane glycoprotein expressed on the surface of B cells throughout all stages of development, from early pre-B cells to plasma cells. Expression is down-regulated but persists in terminally differentiated plasma cells. CD19 is also found on follicular dendritic cells. By associating with CD21 and CD81, CD19 functions as a co-receptor for the B cell receptor and is involved in B cell activation and differentiation. Activation of CD19 is accompanied by phosphorylation of the cytoplasmic domain, which promotes binding to kinases and the induction of intracellular signaling cascades. Mutations in CD19 can result in severe immunodeficiency syndromes. Clone 1D3 recognizes the same epitope as clone 6D5 in cross-competition assays.

|                      |                                              |
|----------------------|----------------------------------------------|
| Target Antigen Name: | CD19                                         |
| Alternative Names:   | B4                                           |
| Gene ID:             | 12478                                        |
| Species Reactivity:  | Mouse                                        |
| Host Species:        | Rat (LEW)                                    |
| Clonality:           | Monoclonal                                   |
| Clone:               | 1D3                                          |
| Isotype:             | IgG2a, kappa                                 |
| Immunogen:           | Recombinant mouse CD19-transfected cell line |
| Conjugate:           | Unconjugated                                 |

## Applications

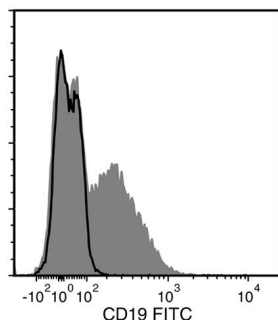
|                       |                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Verified:             | FC                                                                                                                                                                  |
| Reported:             | FA, FC, ICC, IF, IHC, IP                                                                                                                                            |
| Special Applications: | This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Mouse B Cell Enrichment Kit (Catalog #19754). |

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

## Properties

|                        |                                                                                                                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Formulation:           | Aqueous buffer containing 0.09% sodium azide, may contain carrier protein/stabilizer                                                                                                                             |
| Purification:          | The antibody was purified by column chromatography.                                                                                                                                                              |
| Stability and Storage: | Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact <a href="mailto:techsupport@stemcell.com">techsupport@stemcell.com</a> .                                 |
| Directions for Use:    | For flow cytometry the suggested use of this antibody is $\leq 0.5$ µg per $1 \times 10^6$ cells in 100 µL volume. It is recommended that the antibody be titrated for optimal performance for each application. |

## Data



Flow cytometry analysis of C57BL/6 mouse splenocytes labeled with Anti-Mouse CD19 Antibody, Clone 1D3, followed by a mouse anti-rat IgG2a antibody, FITC (filled histogram), or a rat IgG2a, kappa isotype control antibody followed by a mouse anti-rat IgG2a antibody, FITC (solid line histogram).

## Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at [www.stemcell.com/antibodies](http://www.stemcell.com/antibodies) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

1. Von Muenchow L et al. (2014) The selection of mature B cells is critically dependent on the expression level of the co-receptor CD19. *Immunol Lett* 160(2): 113-19. (FC)
2. Chen Q et al. (2013) Retinoic acid and  $\alpha$ -galactosylceramide regulate the expression of costimulatory receptors and transcription factors responsible for B cell activation and differentiation. *Immunobiology* 218(12): 1477-87. (FC, ICC, IF)
3. Yanaba K et al. (2013) CD19 expression in B cells regulates atopic dermatitis in a mouse model. *Am J Pathol* 182(6): 2214-22. (FC)
4. Ziegler AI et al. (2013) The CD19 signalling molecule is elevated in NOD mice and controls type 1 diabetes development. *Diabetologia* 56(12): 2659-68. (FC)
5. Keren Z et al. (2011) B-cell depletion reactivates B lymphopoiesis in the BM and rejuvenates the B lineage in aging. *Blood* 117(11): 3104-12. (FA, FC)
6. Depoil D et al. (2008) CD19 is essential for B cell activation by promoting B cell receptor-antigen microcluster formation in response to membrane-bound ligand. *Nat Immunol* 9(1): 63-72. (ICC, IF)
7. Shoham T et al. (2003) The tetraspanin CD81 regulates the expression of CD19 during B cell development in a postendoplasmic reticulum compartment. *J Immunol* 171(8): 4062-72. (FACS, FC, IP)
8. Carter RH et al. (2002) Role of CD19 signal transduction in B cell biology. *Immunol Res* 26(1-3): 45-54.
9. Gommerman JL et al. (2000) A role for CD21/CD35 and CD19 in responses to acute septic peritonitis: a potential mechanism for mast cell activation. *J Immunol* 165(12): 6915-21. (FC, ICC, IF)
10. Krop I et al. (1996) Self-renewal of B-1 lymphocytes is dependent on CD19. *Eur J Immunol* 26(1): 238-42. (FA, IP)
11. Krop I et al. (1996) The signaling activity of murine CD19 is regulated during B cell development. *J Immunol* 157(1): 48-56. (FC, IP)
12. Rickert RC et al. (1995) Impairment of T-cell-dependent B-cell responses and B-1 cell development in CD19-deficient mice. *Nature* 376(6538): 352-55.

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