



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

#72880 Store at +4C

## CD19 (1D3) Rat mAb (redFluor™ 710 Conjugate)

For Research Use Only. Not for Use in Diagnostic Procedures.

<b>Applications:</b> FC-FP, FC-L	<b>Reactivity:</b> M	<b>Sensitivity:</b> Endogenous	<b>Source/Isotype:</b> Rat IgG2a kappa	<b>UniProt ID:</b> #P25918	<b>Entrez-Gene Id:</b> 12478
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### Product Usage Information

For optimal flow cytometry results, we recommend 0.125 µg of antibody per test.

#### Application

Flow Cytometry (Fixed/Permeabilized)  
Flow Cytometry (Live)

#### Dilution

1:160  
1:160

### Storage

Supplied in 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% NaN<sub>3</sub>, 0.1% gelatin, pH 7.2. This product is stable for 12 months when stored at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

### Specificity/Sensitivity

CD19 (1D3) Rat mAb (redFluor™ 710 Conjugate) recognizes endogenous levels of total mouse CD19 protein. This antibody detects an epitope within the extracellular domain.

### Source / Purification

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

### Description

This Cell Signaling Technology antibody is conjugated to redFluor™ 710 and tested in-house for direct flow cytometric analysis in mouse cells.

### Background

CD19 is a 95 kDa coreceptor which amplifies the signaling cascade in B cells (1). On the B cell surface, CD19 associates with CD21, CD81, and Leu-13 to exert its function. The cytoplasmic tail of CD19 has nine conserved tyrosine residues playing critical roles in CD19 mediated function by coupling signaling molecules to the receptor (1). After B cell receptor or CD19 ligation, Tyr531 and Tyr500 of CD19 are progressively phosphorylated. This phosphorylation enables the coupling of PI3 kinase and Src family tyrosine kinase to CD19 and activates the PI3K and Src signaling pathways (2,3). Coligation of B cell receptor and CD19 also promotes Tyr409 phosphorylation in CD19. The phosphorylation at these sites enables its binding to Vav and mediates elevated intracellular calcium response, as well as the JNK pathway (4,5). The 1D3 clone is a widely used as a phenotypic marker for CD19 expression on the surface of murine B cells and subsets of dendritic cells.

### Background References

1. Tedder, T.F. et al. (1997) *Immunity* 6, 107-18.
2. Buhl, A.M. and Cambier, J.C. (1999) *J Immunol* 162, 4438-46.
3. Fujimoto, M. et al. (2000) *Immunity* 13, 47-57.
4. O'Rourke, L.M. et al. (1998) *Immunity* 8, 635-45.
5. Sato, S. et al. (1997) *Proc Natl Acad Sci U S A* 94, 13158-62.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Applications Key

**FC-FP:** Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

### Cross-Reactivity Key

**M:** Mouse

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