



Antibodies

11-596-C025

Monoclonal Antibody to CD19 (mouse) Purified Antibody (0.025 mg)

Clone:	1D3
Isotype:	Rat IgG2a
Specificity:	The rat monoclonal antibody 1D3 detects mouse CD19, 95 kDa type I transmembrane glycoprotein (immunoglobulin superfamily) expressed on B lymphocytes and follicular dendritic cells; it is lost on plasma cells.
Regulatory Status:	RUO
Immunogen:	Mouse CD19-transfected cell line
Species Reactivity:	Mouse
Application:	Flow Cytometry Immunoprecipitation Immunohistochemistry (frozen sections) Functional Application This antibody can induce down-regulation of CD19, affecting the proportions of B cell subpopulations.
Purity:	> 95% (by SDS-PAGE)
Purification:	Purified by protein-G affinity chromatography
Concentration:	1 mg/ml
Storage Buffer:	Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
Storage / Stability:	Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
Expiration:	See vial label
Lot Number:	See vial label
Background:	CD19 is a transmembrane glycoprotein of Ig superfamily expressed by B cells from the time of heavy chain rearrangement until plasma cell differentiation. It forms a tetrameric complex with CD21 (complement receptor type 2), CD81 (TAPA-1) and Leu13. Together with BCR (B cell antigen receptor), this complex signals to decrease B cell threshold for activation by the antigen. Besides being signal-amplifying coreceptor for BCR, CD19 can also signal independently of BCR coligation and it turns out to be a central regulatory component upon which multiple signaling pathways converge. Mutation of the CD19 gene results in hypogammaglobulinemia, whereas CD19 overexpression causes B cell hyperactivity.

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References:

- *Krop I, Shaffer AL, Fearon DT, Schlissel MS: The signaling activity of murine CD19 is regulated during cell development. *J Immunol.* 1996 Jul 1;157(1):48-56.
- *Cherukuri A, Cheng PC, Pierce SK: The role of the CD19/CD21 complex in B cell processing and presentation of complement-tagged antigens. *J Immunol.* 2001 Jul 1;167(1):163-72.
- *Krop I, de Fougères AR, Hardy RR, Allison M, Schlissel MS, Fearon DT: Self-renewal of B-1 lymphocytes is dependent on CD19. *Eur J Immunol.* 1996 Jan;26(1):238-42.
- *Inabe K, Kurosaki T: Tyrosine phosphorylation of B-cell adaptor for phosphoinositide 3-kinase is required for Akt activation in response to CD19 engagement. *Blood.* 2002 Jan 15;99(2):584-9.
- *Shoham T, Rajapaksa R, Boucheix C, Rubinstein E, Poe JC, Tedder TF, Levy S: The tetraspanin CD81 regulates the expression of CD19 during B cell development in a postendoplasmic reticulum compartment. *J Immunol.* 2003 Oct 15;171(8):4062-72.

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EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic
Tel: +420 261 090 666 | Fax: +420 261 090 660 | orders@exbio.cz | www.exbio.cz