

Datasheet: MCA792F

Description:	MOUSE ANTI HUMAN B CELLS:FITC
Specificity:	B CELLS (FMC7 ANTIGEN)
Other names:	CD20
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	FMC7
Isotype:	IgM
Quantity:	100 TESTS/1ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species	Human		
Product Form	Purified IgM conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	FITC	490	525
Preparation	Purified IgM prepared by gel filtration from ascites		
Buffer Solution	TRIS buffered glycine		
Preservative	0.1% Sodium Azide (NaN ₃)		
Stabilisers	0.2% Bovine Serum Albumin		
Immunogen	HRIK cells - Human B-Lymphoblastoid line.		
External Database	UniProt:		

Links

[P11836](#) [Related reagents](#)

Entrez Gene:

[931](#) MS4A1 [Related reagents](#)

Synonyms

CD20

RRID

AB_321192

Specificity

Mouse anti Human B cells antibody, clone FMC7 recognizes a glycoprotein antigen of ~105 kDa expressed by B lymphocytes. The FMC7 antigen is expressed by peripheral B lymphocytes. Mouse anti Human B cells antibody, clone FMC7 has been used extensively to differentiate various types of B cell malignancy. B-CLL is generally considered to be negative for FMC7 expression, but strong staining is seen in many other types of B cell lymphoma, including polymorphocytic leukemia and hairy cell leukemia.

The expression pattern of the FMC7 antigen closely corresponds to that seen with CD22. Mouse anti Human B cells antibody, clone FMC7 recognizes a conformational epitope on the CD20 molecule, most likely a multimeric complex of CD20 ([Serke et al. 2001](#)). Identity of CD20 as the antigen recognized by Mouse anti Human B cells antibody, clone FMC7 was further confirmed by strong recognition of [recombinant CD20](#) expressed in hematopoietic and non-hematopoietic cell lines and abolition of binding in [CD20 extracellular domain mutations](#). The recognized epitope has also been shown to be [cholesterol dependent](#) ([Polyak et al. 2003](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10⁶ cells or 100ul whole blood.

References

1. Catovsky, D. *et al.* (1981) Heterogeneity of B-cell leukemias demonstrated by the monoclonal antibody FMC7. [Blood. 58 \(2\): 406-8.](#)
2. Serke, S. *et al.* (2001) Monoclonal antibody FMC7 detects a conformational epitope on the CD20 molecule: Evidence from phenotyping after Rituxan therapy and transfectant cell analyses. [Cytometry \(Comm. Clin. Cytometry\) 46:98-104](#)
3. Zola H., *et al.* (1984) The human B cell lineage studied with monoclonal antibodies. In Leucocyte Typing Ed.A. Bernard, Springer Verlag. p363-71.
4. Zola, H. *et al.* (1984) The antigen of mature human B cells detected by the monoclonal antibody FMC7: studies on the nature of the antigen and modulation of its expression. [J Immunol. 133 \(1\): 321-6.](#)
5. Bloem, A.C. *et al.* (1988) Functional properties of human B cell subpopulations defined by monoclonal antibodies HB4 and FMC7. [J Immunol. 140 \(3\): 768-73.](#)
6. Zola, H. *et al.* (1987) Markers of differentiated B cell leukaemia: CD22 antibodies and FMC7 react with different molecules. [Dis Markers. 5 \(4\): 227-35.](#)
7. Ghia, P. *et al.* (2003) The pattern of CD38 expression defines a distinct subset of chronic lymphocytic leukemia (CLL) patients at risk of disease progression. [Blood. 101 \(4\): 1262-9.](#)
8. Ferro LM & Zola H (1990) Modulation of expression of the antigen identified by FMC7 upon human B-lymphocyte activation: evidence for differences between activation *in vivo* and *in vitro*. [Immunology. 69 \(3\): 373-8.](#)
9. Collins, R.J. *et al.* (1983) Malignant lymphoma: reactive with the monoclonal antibody

fmc-7 [Pathology. 15 \(3\): 350-1. \(Conference abstract\).](#)

10. Zucchetto A *et al.* (2006) A scoring system based on the expression of six surface molecules allows the identification of three prognostic risk groups in B-cell chronic lymphocytic leukemia. [J Cell Physiol. 207 \(2\): 354-63.](#)

11. Wang, C. *et al.* (2002) Differentiation of monoclonal B lymphocytosis of undetermined significance (MLUS) and chronic lymphocytic leukemia (CLL) with weak CD5 expression from CD5(-) CLL. [Leuk Res. 26 \(12\): 1125-9.](#)

12. Amato, D. *et al.* (2007) Cytogenetic aberrations and immunoglobulin VH gene mutations in clinically benign CD5- monoclonal B-cell lymphocytosis. [Am J Clin Pathol. 128 \(2\): 333-8.](#)

13. Polyak, M.J. *et al.* (2003) A cholesterol-dependent CD20 epitope detected by the FMC7 antibody. [Leukemia. 17 \(7\): 1384-9.](#)

14. Domingo-Domènech, E. *et al.* (2002) CD38 expression in B-chronic lymphocytic leukemia: association with clinical presentation and outcome in 155 patients. [Haematologica. 87 \(10\): 1021-7.](#)

15. Gladkikh, A. *et al.* (2010) Cyclin D1 expression in B-cell lymphomas. [Exp Hematol. 38 \(11\): 1047-57.](#)

16. Unruh, T.L. *et al.* (2005) Cholesterol depletion inhibits src family kinase-dependent calcium mobilization and apoptosis induced by rituximab crosslinking. [Immunology. 116 \(2\): 223-32.](#)

17. Gladkikh, A.A. *et al.* (2017) Comparison of the mRNA expression profile of B-cell receptor components in normal CD5-high B-lymphocytes and chronic lymphocytic leukemia: a key role of ZAP70. [Cancer Med. 6 \(12\): 2984-97.](#)

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Health And Safety Information

Material Safety Datasheet documentation #10371 available at: <https://www.bio-rad-antibodies.com/SDS/MCA792F>
10371

Regulatory

For research purposes only

Related Products

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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'M405992:220916'

Printed on 19 Jan 2024
