Datasheet: MCA792F

BATCH NUMBER 167311

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 Stabilisers

0.1% Sodium Azide (NaN_3)
0.2% Bovine Serum Albumin

Immunogen

HRIK cells - Human B-Lymphoblastoid line.

External Database Links	**UniProt:** 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 prolymphocytic 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-haematopoietic 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 10^6 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.
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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.
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13. Polyak, M.J. *et al.* (2003) A cholesterol-dependent CD20 epitope detected by the FMC7 antibody. Leukemia. 17 (7): 1384-9.
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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)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	**Worldwide**	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	**Europe**	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

'M405992:220916'

Printed on 19 Jan 2024