

Patient ID SA00067319	Patient Name SAMPLEREPOR, IABCS	Birth Date 1966-06-10	Gender F	Age 47
Order Number SA00067319	Client Order Number SA00067319	Ordering Physician Client, Client	Report Notes	
Account Information C7028846 DLMP Rochester		Collected 05 May 2014 00:00		

Immune Assessment B Cell Subsets, B

T- and B-Cell QN by Flow Cytometry

CD45 Lymph Count, Flow

1.30 thou/mcL

MCR
Reference Value
0.82–2.84

CD3 (T Cells)

975 cells/mcL

MCR
Reference Value
550–2202

% CD3 (T Cells)

75 %

MCR
Reference Value
58–86

CD19 (B Cells)

104 cells/mcL

MCR
Reference Value
70–409

% CD19 (B Cells)

8 %

MCR
Reference Value
6–24

CD16+CD56 (NK cells)

221 cells/mcL

MCR
Reference Value
59–513

% CD16+CD56 (NK cells)

17 %

MCR
Reference Value
4–28

CD4 (Helper Cells)

715 cells/mcL

MCR
Reference Value
365–1437

% CD4 (Helper Cells)

55 %

MCR
Reference Value
32–64

CD8 (Supp'r Cells)

260 cells/mcL

MCR
Reference Value
145–846

% CD8 (Supp'r Cells)

20 %

MCR
Reference Value
13–40

H/S Ratio

2.8

MCR
Reference Value
≥0.9

Immune Assessment B Cell Subsets, B

CD19+ % of total Lymphocytes

7.6 %

MCR
Reference Value
2.8–17.4

CD27+ IgM+ IgD+ % of CD19+ B cells

2.4 %

MCR
Reference Value
1.7–29.3

CD20+ % of total Lymphocytes

7.8 %

MCR
Reference Value
3.2–16.8

CD27+ IgM- IgD- % of CD19+ B cells

 0.7 %

MCR
Reference Value
2.3–26.5

CD27+ % of CD19+ B cells

 4.6 %

MCR
Reference Value
6.3–52.8

CD27+ IgM+ IgD- % of CD19+ B cells










0.7 %

MCR
Reference Value
0.0–5.3

Performing Site Legend

Code	Laboratory	Address
MCR	Mayo Clinic Dept. of Lab Med and Pathology	200 First Street SW, Rochester, MN 55905

Patient ID SA00067319	Patient Name SAMPLEREPOR, IABCS	Birth Date 1966-06-10	Gender F	Age 47
Order Number SA00067319	Client Order Number SA00067319	Ordering Physician Client, Client	Report Notes	
Account Information C7028846 DLMP Rochester		Collected 05 May 2014 00:00		

IgM+ % of CD19+ B cells	MCR	CD27+ IgM- IgD-	MCR
77.2 %	Reference Value 26.0–78.0	 0.7 cells/mcL	Reference Value 7.0–61.0
		 Low	
CD38+ IgM- % of CD19+ B cells	MCR	CD27+ IgM+ IgD-	MCR
13.4 %	Reference Value 4.1–42.2	0.7 cells/mcL	Reference Value 0.0–12.0
CD38+ IgM+ % of CD19+ B cells	MCR	IgM+	MCR
 69.8 %	Reference Value 1.2–50.7	76.3 cells/mcL	Reference Value 37.0–327.0
 High		CD38+ IgM-	MCR
CD21+ % of CD19+ B cells	MCR	13.2 cells/mcL	Reference Value 7.0–153.0
98.8 %	Reference Value 92.1–99.6	CD38+ IgM+	MCR
CD21- % of CD19+ B cells	MCR	69 cells/mcL	Reference Value 2.0–139.4
0.8 %	Reference Value 0.2–8.6	CD21+	MCR
CD19+	MCR	97.6 cells/mcL	Reference Value 85.0–533.0
98.8 cells/mcL	Reference Value 90.0–539.0	CD21-	MCR
CD20+	MCR	0.8 cells/mcL	Reference Value 0.3–22.0
101.4 cells/mcL	Reference Value 95.0–580.8	Interpretation	 MCR
CD27+	MCR	Normal T cell, NK cell, and CD19+ B cell counts in whole blood using an age-segregated reference range.	
 4.5 cells/mcL	Reference Value 18.0–145.0	B cell subset analysis in the PBMC preparation shows a moderate decrease in the percentage of total memory B cells (CD19+CD27+), which can be attributed to a significant decrease in the percentage of switched memory B cells (CD27+IgM-IgD-). Within the total memory B cell (CD19+CD27+) compartment, non-switched memory (marginal zone) B cells (CD27+IgM+IgD+) account for 52.4% of the cells, switched memory B cells (CD27+IgM-IgD-) constitute 15.3%, and IgM-only memory B cells (CD27+IgM+IgD-) account for 16.2%.	
 Low			
CD27+ IgM+ IgD+	MCR		
 2.4 cells/mcL	Reference Value 4.0–85.0		
 Low			

Performing Site Legend

Code	Laboratory	Address
MCR	Mayo Clinic Dept. of Lab Med and Pathology	200 First Street SW, Rochester, MN 55905



Patient ID SA00067319	Patient Name SAMPLEREPOR, IABCS	Birth Date 1966-06-10	Gender F	Age 47
Order Number SA00067319	Client Order Number SA00067319	Ordering Physician Client, Client	Report Notes	
Account Information C7028846 DLMP Rochester		Collected 05 May 2014 00:00		

The findings in the memory B cell compartment point to its skewing towards non-switched memory (marginal zone) B cells rather than switched memory B cells. This, together with the moderate increase in the percentage of transitional B cells (CD19+CD38+igM+) raises concern about impaired (but not blocked) B cell differentiation into switched memory B cells.

This result could be associated with a primary humoral immunodeficiency, such as CVID, in this patient, although decreased class-switched memory B cells have also been reported in other primary immunodeficiencies, as well as observed secondary to immunosuppressive/immunomodulatory therapy. B cell subset analysis is not diagnostic for CVID, but rather helpful for prognosis and classification.

In the context of CVID, a significant decreased in class-switched memory B-cells can be associated with splenomegaly and granulomatous disease (Wehr et al, Blood, 2008, 111: 77-85).

Reviewed by: Dr. Immunology

ADDITIONAL INFORMATION

This assay is performed using peripheral blood mononuclear cells (PBMC) isolated from whole blood. CD19 percentage and absolute results should not be directly compared to the CD19 results from the T and B cell Surface Markers AG assay using whole blood, because cells are lost during the PBMC isolation process.

Received: 06 May 2014 11:41

Reported: 07 May 2014 11:28

Laboratory Notes

- 1 Analyte Specific Reagent: This test was developed and its performance characteristics determined by Mayo Clinic. It has not been cleared or approved by the U.S. Food and Drug Administration.

Performing Site Legend

Code	Laboratory	Address
MCR	Mayo Clinic Dept. of Lab Med and Pathology	200 First Street SW, Rochester, MN 55905