

T- AND B-CELL QUANTITATION AND LYMPHOCYTE PROLIFERATION TO MITOGENS PANEL

#60588

PROFILE INFORMATION:

Unit Code	Reporting Name	Available Separately	Always Performed
9336	T- and B-Cell QN by Flow Cytometry	Yes	Yes
60591	Lymphocyte Proliferation, Mitogens	Yes	Yes

USEFUL FOR: Refer to New Test Announcement for #60591

METHODOLOGY: Flow Cytometry

REFERENCE VALUES:

T- AND B-CELL QUANTITATION BY FLOW CYTOMETRY	
T & B Surface Marker	Absolute Counts
% T Cells (CD3)	CD45 Lymph Count, Flow
0-2 months: 53-84%*	0-17 years: 0.66-4.60 thou/uL
3-5 months: 51-77%*	18-55 years: 0.99-3.15 thou/uL
6-11 months: 49-76%*	>55 years: 1.00-3.33 thou/uL
12-23 months: 53-75%*	T Cells (CD3)
2-5 years: 56-75%*	0-2 months: 2,500-5,500 cells/uL*
6-11 years: 60-76%*	3-5 months: 2,500-5,600 cells/uL*
12-17 years: 56-84%*	6-11 months: 1,900-5,900 cells/uL*
18-55 years: 59-83%	12-23 months: 2,100-6,200 cells/uL*
>55 years: 49-87%	2-5 years: 1,400-3,700 cells/uL*
% B Cells (CD19)	6-11 years: 1,200-2,600 cells/uL*
0-2 months: 6-32%*	12-17 years: 1,000-2,200 cells/uL*
3-5 months: 11-41%*	18-55 years: 677-2,383 cells/uL
6-11 months: 14-37%*	>55 years: 617-2,254 cells/uL
12-23 months: 16-35%*	B Cells (CD19)
2-5 years: 14-33%*	0-2 months: 300-2,000 cells/uL*
6-11 years: 13-27%*	3-5 months: 430-3,000 cells/uL*
12-17 years: 6-23%*	6-11 months: 610-2,600 cells/uL*
18-55 years: 6-22%	12-23 months: 720-2,600 cells/uL*
>55 years: 3-20%	2-5 years: 390-1,400 cells/uL*
% Natural Killer (CD16+CD56)	6-11 years: 270-860 cells/uL*
0-2 months: 4-18%*	12-17 years: 110-570 cells/uL*
3-5 months: 3-14%*	18-55 years: 99-527 cells/uL
6-23 months: 3-15%*	>55 years: 31-409 cells/uL
2-11 years: 4-17%*	Natural Killer (CD16+CD56)
12-17 years: 3-22%*	0-2 months: 170-1,100 cells/uL*
18-55 years: 6-27%	3-5 months: 170-830 cells/uL*
>55 years: 6-35%	6-11 months: 160-950 cells/uL*
% Helper Cells (CD4)	12-23 months: 180-920 cells/uL*
0-2 months: 35-64%*	2-5 years: 130-720 cells/uL*

3-5 months: 35-56%*	6-11 years: 100-480 cells/uL*
6-11 months: 31-56%*	12-17 years: 70-480 cells/uL*
12-23 months: 32-51%*	18-55 years: 101-678 cells/uL
2-5 years: 28-47%*	>55 years: 110-657 cells/uL
6-11 years: 31-47%*	Helper Cells (CD4)
12-17 years: 31-52%*	0-2 months: 1,600-4,000 cells/uL*
18-55 years: 31-59%	3-5 months: 1,800-4,000 cells/uL*
>55 years: 32-67%	6-11 months: 1,400-4,300 cells/uL*
% Suppressor Cells (CD8)	12-23 months: 1,300-3,400 cells/uL*
0-2 months: 12-28%*	2-5 years: 700-2,200 cells/uL*
3-5 months: 12-23%*	6-11 years: 650-1,500 cells/uL*
6-11 months: 12-24%*	12-17 years: 530-1,300 cells/uL*
12-23 months: 14-30%*	18-55 years: 424-1,509 cells/uL
2-5 years: 16-30%*	>55 years: 430-1,513 cells/uL
6-17 years: 18-35%*	Suppressor Cells (CD8)
18-55 years: 12-38%	0-2 months: 560-1,700 cells/uL*
>55 years: 8-40%	3-5 months: 590-1,600 cells/uL*
	6-11 months: 500-1,700 cells/uL*
	12-23 months: 620-2,000 cells/uL*
Lymphocyte Ratio	2-5 years: 490-1,300 cells/uL*
H/S ratio: > or =1.0	6-11 years: 370-1,100 cells/uL*
	12-17 years: 330-920 cells/uL*
	18-55 years: 169-955 cells/uL
	>55 years: 101-839 cells/uL

*Shearer WT, Rosenblatt HM, Gelman RS, et al: Lymphocyte subsets in healthy children from birth through 18 years of age: The Pediatric AIDS Clinical Trials Group P1009 study. J Allergy Clin Immunol 2003;112(5):973-980

LYMPHOCYTE PROLIFERATION, MITOGENS	
Viab of Lymphs at Day 0	>=62.2%
Max Prolif of PWM as % CD45	>=4.5%
Max Prolif of PWM as % CD3	>=3.5%
Max Prolif of PWM as % CD19	>=3.9%
Max Prolif of PHA as % CD45	>=49.9%
Max Prolif of PHA as % CD3	>=58.5%

SPECIMEN REQUIREMENTS: Two separate specimens are required.

Send specimens Sunday through Thursday only. Specimens must arrive within 24 hours of draw and by 10 a.m. on Friday. Draw and package specimens as close to shipping time as possible. **Ship specimens priority overnight in an "Ambient Mailer-Critical Specimens Only" (Supply T668).**

Blood for #9336 "T- and B-Cell Quantitation by Flow Cytometry"

Container/Tube: Lavender-top (EDTA) tube(s)

Specimen Volume: 4 mL of whole blood

Collection Instructions: Send specimen in original VACUTAINER(S). **Do not aliquot.**

NOTE:

1. Date of draw is required.

2. Recommendation for serial monitoring: perform specimen draws at the same time of day.

3. Label specimen appropriately (#9336 "T- and B-Cell Quantitation by Flow Cytometry").

Blood for #60591 "Lymphocyte Proliferation, Mitogens, Blood"**Container/Tube:** Green-top (sodium heparin) tube(s)-**Lithium heparin is not acceptable.****Specimen Volume:** See chart below for whole blood volumes.

Patient Age	Requested Volume
<3 months	1 mL
3 months-5 years	2 mL
6-18 years	3 mL
>18 years	10 mL

Collection Instructions: Send specimen in original VACUTAINER(S). **Do not aliquot.****NOTE:**

- 1. Date and time of draw and ordering physician name and phone number are required.**
2. Recommendation for serial monitoring: perform specimen draws at the same time of day.
3. Label specimen appropriately (#60591 "Lymphocyte Proliferation, Mitogens, Blood").

CAUTIONS:

See New Test Announcement for #60591

LIST FEE: \$1,106.60**CPT CODE:**

"T- and B-Cell Quantitation by Flow Cytometry"

86355-B cells, total count

86356-Total count, CD45

86357-Natural killer (NK) cells, total count

86359-T cells, total count

86360-Absolute CD4/CD8 count with ratio

"Lymphocyte Proliferation, Mitogens, Blood"

86353

ANALYTIC TIME: 11 days**DAY(S) SET-UP: Do not send specimens after Thursday.**

T- and B-cell quantitation by flow cytometry: Monday through Sunday; Continuously to 2 p.m.

Lymphocyte proliferation, mitogens: Monday through Friday

QUESTIONS: Contact your Mayo Medical Laboratories' Regional Manager or
Shirley Pokorski, MML Laboratory Technologist Resource Coordinator
Telephone: 800-533-1710