

T- AND B-CELL QUANTITATION AND LYMPHOCYTE PROLIFERATION TO ANTIGENS AND MITOGENS PANEL #89825

PROFILE INFORMATION:

Unit Code	Reporting Name	Available Separately	Always Performed
9336	T- & B-Cell QN by Flow Cytometry	Yes	Yes
8885	Lymphocyte Proliferation, Antigens	Yes	Yes
8884	Lymphocyte Proliferation, Mitogens	Yes	Yes

EXPLANATION: This new test contains three existing tests combined to assess T-Cell immune competence.

USEFUL FOR:

- Assessing antigen-specific T-cell responses, global T-cell function, and quantitating lymphocyte subsets in a single orderable test
- This panel is most helpful when evaluating patients with immunodeficiencies, where quantitative decreases in T cells can lead to reduced functional antigen and/or mitogen responses.
- See Individual Unit Codes (9336, 8885, and 8884) for additional information.

METHODOLOGY:

- 9336: Fluorescent Flow Cytometry
- 8884, 8885: Incorporation of Radioactive Nucleoside ([³H]-Thymidine) into Cellular DNA

SPECIMEN REQUIREMENTS: **Two separate specimens are required** for this test-1 containing EDTA and 1 containing sodium heparin.

Specimens must arrive within 24 hours of draw and by 10 a.m. on Friday. Send specimens Sunday through Thursday only. Collect and package specimens as close to shipping time as possible. Ship specimens priority overnight.

Blood for #9336:

Draw blood in a lavender-top (EDTA) tube(s), and send 4 mL of EDTA whole blood in original VACUTAINER(S). **Do not aliquot.** Forward promptly at ambient temperature. **Specimen cannot be frozen.**

Note: 1. **Draw date is required** on request form for processing.
2. For serial monitoring, draw specimen at the same time of day.

Blood for #8885 and #8884:

Draw blood in a green-top (sodium heparin) tube(s), and send 15 mL of sodium heparin whole blood in original VACUTAINER(S). **(Lithium heparin is not acceptable.) Do not aliquot.** Forward promptly at ambient temperature only.

NOTE: 1. **Draw date, draw time, and ordering physician name are required** on request form for processing.
2. For serial monitoring, draw specimen at the same time of day.

CAUTIONS:

- This assay is not used for diagnosing lymphocytic malignancies or evaluation of lymphocytosis of unknown etiology. In these situations, #3287 "Leukemia/Lymphoma Immunophenotyping by Flow Cytometry," which includes a hematopathology review, should be ordered.
- The range of proliferative responses observed in healthy, immunologically competent individuals is large.
- Lymphocyte proliferation to lectin mitogens is known to be affected by alcohol, numerous therapeutic drugs (eg, corticosteroids), psychological stressors (eg, anxiety, bereavement, and depression), and acute illnesses (eg, acute viral infections).
- Nonreactive responses to recall antigens may occur in healthy, immunocompetent individuals if there has been no prior exposure to an antigen or if exposure has occurred in the remote past without subsequent reexposure (eg, nonreactive responses to *Candida albicans* and tetanus toxoid may occur in infants and older adults, respectively). Nonreactive responses may also occur in individuals treated with immunosuppressive drugs, (eg, systemic corticosteroids).
- Timing and consistency in timing of blood collection is critical when serially monitoring patients for lymphocyte subsets. See data under Clinical Information.
- Test specimens >24 hours old may give spurious results. Diminished results may be obtained in cultures that contain excess neutrophils or non viable cells.

LIST FEE:

"T- and B-Cell Quantitation by Flow Cytometry": \$399.60
 "Lymphocyte Proliferation, Antigens, Blood": \$491.60
 "Lymphocyte Proliferation, Mitogens, Blood": \$491.60

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, Antigens, Blood"
 86353
 "Lymphocyte Proliferation, Mitogens, Blood"
 86353

ANALYTIC TIME: 11 days

DAY(S) SET-UP:

"T- and B-Cell Quantitation by Flow Cytometry": Monday through Sunday; continuously to 2 p.m.
 "Lymphocyte Proliferation, Antigens, Blood": Monday through Friday
 "Lymphocyte Proliferation, Mitogens, Blood": Monday through Friday

REFERENCE VALUES: As the reference values for these tests are quite extensive, they have not been listed here. Please see the individual unit codes (9336, 8885, and 8884) within the test catalog for details.

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

TEST DEFINITION

8/3/2009

Code Name

89825 T-Cell Immune Competence Panel

**** End of Name to order code Report ****

MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
89825(profile)			T-Cell Immune Competence Panel			
9336	3/30/2009		T- & B-Cell QN by Flow Cytometry			MCR
			Transport temp : Ambient <72 hours\Refrig <72 hours OK\Frozen NO			
			9336 T- & B-Cell QN by Flow Cytometry			

		3321	CD45 Lymph Count, Flow			
			Units: thou/uL			
			NO SEX			
			No age	:	; #NN3321	
			1D to 17Y	:	; 0.66-4.60	
			18Y to 55Y	:	; 0.99-3.15	
			56Y to 150Y	:	; 1.00-3.33	
			MALE			
			No age	:	; #NN3321	
			1D to 17Y	:	; 0.66-4.60	
			18Y to 55Y	:	; 0.99-3.15	
			56Y to 150Y	:	; 1.00-3.33	
			FEMALE			
			No age	:	; #NN3321	
			1D to 17Y	:	; 0.66-4.60	
			18Y to 55Y	:	; 0.99-3.15	
			56Y to 150Y	:	; 1.00-3.33	

		3316	% CD3 (T Cells)			
			Units: %			
			NO SEX			
			No age	:	; #N3316	

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ORDER CODE -----	EFF DATE -----	TC -----	TITLE -----	Checking Normals -----	Print normals (# coded) -----	Perform Site * -----
89825	(continued)					
		3316	% CD3 (T Cells)	(continued)		
			1D to 2M	: 53-84	; 53-84	
			3M to 5M	: 51-77	; 51-77	
			6M to 11M	: 49-76	; 49-76	
			12M to 23M	: 53-75	; 53-75	
			24M to 5Y	: 56-75	; 56-75	
			6Y to 11Y	: 60-76	; 60-76	
			12Y to 17Y	: 56-84	; 56-84	
			18Y to 55Y	: 59-83	; 59-83	
			56Y to 150Y	: 49-87	; 49-87	
			MALE			
			No age	:	; #N3316	
			1D to 2M	: 53-84	; 53-84	
			3M to 5M	: 51-77	; 51-77	
			6M to 11M	: 49-76	; 49-76	
			12M to 23M	: 53-75	; 53-75	
			24M to 5Y	: 56-75	; 56-75	
			6Y to 11Y	: 60-76	; 60-76	
			12Y to 17Y	: 56-84	; 56-84	
			18Y to 55Y	: 59-83	; 59-83	
			56Y to 150Y	: 49-87	; 49-87	
			FEMALE			
			No age	:	; #N3316	
			1D to 2M	: 53-84	; 53-84	
			3M to 5M	: 51-77	; 51-77	
			6M to 11M	: 49-76	; 49-76	
			12M to 23M	: 53-75	; 53-75	
			24M to 5Y	: 56-75	; 56-75	
			6Y to 11Y	: 60-76	; 60-76	
			12Y to 17Y	: 56-84	; 56-84	
			18Y to 55Y	: 59-83	; 59-83	
			56Y to 150Y	: 49-87	; 49-87	
		3318	% CD19 (B Cells)			
			Units: %			
			NO SEX			
			No age	:	; #N3318	
			1D to 2M	: 6-32	; 6-32	
			3M to 5M	: 11-41	; 11-41	
			6M to 11M	: 14-37	; 14-37	
			12M to 23M	: 16-35	; 16-35	
			24M to 5Y	: 14-33	; 14-33	
			6Y to 11Y	: 13-27	; 13-27	
			12Y to 17Y	: 6-23	; 6-23	

18Y to 55Y	:	6-22	:	6-22
56Y to 150Y	:	3-20	:	3-20
MALE				
No age	:		:	#N3318
1D to 2M	:	6-32	:	6-32
3M to 5M	:	11-41	:	11-41

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MML MML Test setup information

ORDER CODE -----	EFF DATE ----	TC ----	TITLE -----	Checking Normals -----	Print normals (# coded) -----	Perform Site * -----
89825	(continued)	3318	% CD19 (B Cells)	(continued)		
			6M to 11M	: 14-37	: 14-37	
			12M to 23M	: 16-35	: 16-35	
			24M to 5Y	: 14-33	: 14-33	
			6Y to 11Y	: 13-27	: 13-27	
			12Y to 17Y	: 6-23	: 6-23	
			18Y to 55Y	: 6-22	: 6-22	
			56Y to 150Y	: 3-20	: 3-20	
			FEMALE			
			No age	:	:	#N3318
			1D to 2M	: 6-32	: 6-32	
			3M to 5M	: 11-41	: 11-41	
			6M to 11M	: 14-37	: 14-37	
			12M to 23M	: 16-35	: 16-35	
			24M to 5Y	: 14-33	: 14-33	
			6Y to 11Y	: 13-27	: 13-27	
			12Y to 17Y	: 6-23	: 6-23	
			18Y to 55Y	: 6-22	: 6-22	
			56Y to 150Y	: 3-20	: 3-20	
		4054	% CD16+CD56 (NK cells)			
			Units: %			
			NO SEX			
			No age	:	:	#N4054
			1D to 2M	: 4-18	: 4-18	
			3M to 5M	: 3-14	: 3-14	
			6M to 23M	: 3-15	: 3-15	
			24M to 11Y	: 4-17	: 4-17	
			12Y to 17Y	: 3-22	: 3-22	
			18Y to 55Y	: 6-27	: 6-27	
			56Y to 150Y	: 6-35	: 6-35	
			MALE			
			No age	:	:	#N4054
			1D to 2M	: 4-18	: 4-18	
			3M to 5M	: 3-14	: 3-14	
			6M to 23M	: 3-15	: 3-15	
			24M to 11Y	: 4-17	: 4-17	

12Y to 17Y	:	3-22	;	3-22
18Y to 55Y	:	6-27	;	6-27
56Y to 150Y	:	6-35	;	6-35
FEMALE				
No age	:		;	#N4054
1D to 2M	:	4-18	;	4-18
3M to 5M	:	3-14	;	3-14
6M to 23M	:	3-15	;	3-15
24M to 11Y	:	4-17	;	4-17
12Y to 17Y	:	3-22	;	3-22
18Y to 55Y	:	6-27	;	6-27
56Y to 150Y	:	6-35	;	6-35

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MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
89825	(continued)	3319	% CD4 (Helper Cells)			
			Units: %			
			NO SEX			
			No age	:	;	#N3319
			1D to 2M	:	;	35-64
			3M to 5M	:	;	35-56
			6M to 11M	:	;	31-56
			12M to 23M	:	;	32-51
			24M to 5Y	:	;	28-47
			6Y to 11Y	:	;	31-47
			12Y to 17Y	:	;	31-52
			18Y to 55Y	:	;	31-59
			56Y to 150Y	:	;	32-67
			MALE			
			No age	:	;	#N3319
			1D to 2M	:	;	35-64
			3M to 5M	:	;	35-56
			6M to 11M	:	;	31-56
			12M to 23M	:	;	32-51
			24M to 5Y	:	;	28-47
			6Y to 11Y	:	;	31-47
			12Y to 17Y	:	;	31-52
			18Y to 55Y	:	;	31-59
			56Y to 150Y	:	;	32-67
			FEMALE			
			No age	:	;	#N3319
			1D to 2M	:	;	35-64
			3M to 5M	:	;	35-56
			6M to 11M	:	;	31-56
			12M to 23M	:	;	32-51

24M to 5Y : 28-47 ; 28-47
 6Y to 11Y : 31-47 ; 31-47
 12Y to 17Y : 31-52 ; 31-52
 18Y to 55Y : 31-59 ; 31-59
 56Y to 150Y : 32-67 ; 32-67

3320 % CD8 (Supp'r Cells)
 Units: %
 NO SEX
 No age : ; #N3320
 1D to 2M : 12-28 ; 12-28
 3M to 5M : 12-23 ; 12-23
 6M to 11M : 12-24 ; 12-24
 12M to 23M : 14-30 ; 14-30
 24M to 5Y : 16-30 ; 16-30
 6Y to 17Y : 18-35 ; 18-35
 18Y to 55Y : 12-38 ; 12-38
 56Y to 150Y : 8-40 ; 8-40
 MALE
 No age : ; #N3320

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MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
89825	(continued)	3320	% CD8 (Supp'r Cells)	(continued)		
			1D to 2M	: 12-28	; 12-28	
			3M to 5M	: 12-23	; 12-23	
			6M to 11M	: 12-24	; 12-24	
			12M to 23M	: 14-30	; 14-30	
			24M to 5Y	: 16-30	; 16-30	
			6Y to 17Y	: 18-35	; 18-35	
			18Y to 55Y	: 12-38	; 12-38	
			56Y to 150Y	: 8-40	; 8-40	
			FEMALE			
			No age	: ;	#N3320	
			1D to 2M	: 12-28	; 12-28	
			3M to 5M	: 12-23	; 12-23	
			6M to 11M	: 12-24	; 12-24	
			12M to 23M	: 14-30	; 14-30	
			24M to 5Y	: 16-30	; 16-30	
			6Y to 17Y	: 18-35	; 18-35	
			18Y to 55Y	: 12-38	; 12-38	
			56Y to 150Y	: 8-40	; 8-40	
3322			CD3 (T Cells)			
			Units: cells/uL			
			NO SEX			

No age : ; #N3322
 1D to 2M : 2500-5500 ; 2500-5500
 3M to 5M : 2500-5600 ; 2500-5600
 6M to 11M : 1900-5900 ; 1900-5900
 12M to 23M : 2100-6200 ; 2100-6200
 24M to 5Y : 1400-3700 ; 1400-3700
 6Y to 11Y : 1200-2600 ; 1200-2600
 12Y to 17Y : 1000-2200 ; 1000-2200
 18Y to 55Y : 677-2383 ; 677-2383
 56Y to 150Y : 617-2254 ; 617-2254

MALE

No age : ; #N3322
 1D to 2M : 2500-5500 ; 2500-5500
 3M to 5M : 2500-5600 ; 2500-5600
 6M to 11M : 1900-5900 ; 1900-5900
 12M to 23M : 2100-6200 ; 2100-6200
 24M to 5Y : 1400-3700 ; 1400-3700
 6Y to 11Y : 1200-2600 ; 1200-2600
 12Y to 17Y : 1000-2200 ; 1000-2200
 18Y to 55Y : 677-2383 ; 677-2383
 56Y to 150Y : 617-2254 ; 617-2254

FEMALE

No age : ; #N3322
 1D to 2M : 2500-5500 ; 2500-5500
 3M to 5M : 2500-5600 ; 2500-5600
 6M to 11M : 1900-5900 ; 1900-5900
 12M to 23M : 2100-6200 ; 2100-6200

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MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
89825	(continued)	3322	CD3 (T Cells)	(continued)		
			24M to 5Y	: 1400-3700	; 1400-3700	
			6Y to 11Y	: 1200-2600	; 1200-2600	
			12Y to 17Y	: 1000-2200	; 1000-2200	
			18Y to 55Y	: 677-2383	; 677-2383	
			56Y to 150Y	: 617-2254	; 617-2254	
		3324	CD19 (B Cells)			
			Units: cells/uL			
			NO SEX			
			No age	: ; #N3324		
			1D to 2M	: 300-2000	; 300-2000	
			3M to 5M	: 430-3000	; 430-3000	
			6M to 11M	: 610-2600	; 610-2600	
			12M to 23M	: 720-2600	; 720-2600	
			24M to 5Y	: 390-1400	; 390-1400	

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6Y to 11Y      : 270-860          ; 270-860
12Y to 17Y     : 110-570          ; 110-570
18Y to 55Y     : 99-527           ; 99-527
56Y to 150Y    : 31-409           ; 31-409
  MALE
No age         :                  ; #N3324
1D to 2M      : 300-2000        ; 300-2000
3M to 5M      : 430-3000        ; 430-3000
6M to 11M     : 610-2600        ; 610-2600
12M to 23M    : 720-2600        ; 720-2600
24M to 5Y     : 390-1400        ; 390-1400
6Y to 11Y     : 270-860          ; 270-860
12Y to 17Y    : 110-570          ; 110-570
18Y to 55Y    : 99-527           ; 99-527
56Y to 150Y   : 31-409           ; 31-409
  FEMALE
No age         :                  ; #N3324
1D to 2M      : 300-2000        ; 300-2000
3M to 5M      : 430-3000        ; 430-3000
6M to 11M     : 610-2600        ; 610-2600
12M to 23M    : 720-2600        ; 720-2600
24M to 5Y     : 390-1400        ; 390-1400
6Y to 11Y     : 270-860          ; 270-860
12Y to 17Y    : 110-570          ; 110-570
18Y to 55Y    : 99-527           ; 99-527
56Y to 150Y   : 31-409           ; 31-409

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4055 CD16+CD56 (NK cells)

Units: cells/uL

NO SEX

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No age         :                  ; #N4055
1D to 2M      : 170-1100        ; 170-1100
3M to 5M      : 170-830         ; 170-830
6M to 11M     : 160-950         ; 160-950

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MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
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89825	(continued)	4055	CD16+CD56 (NK cells)	(continued)		
			12M to 23M	: 180-920	; 180-920	
			24M to 5Y	: 130-720	; 130-720	
			6Y to 11Y	: 100-480	; 100-480	
			12Y to 17Y	: 70-480	; 70-480	
			18Y to 55Y	: 101-678	; 101-678	
			56Y to 150Y	: 110-657	; 110-657	
			MALE			
			No age	:	; #N4055	

1D to 2M : 170-1100 ; 170-1100
 3M to 5M : 170-830 ; 170-830
 6M to 11M : 160-950 ; 160-950
 12M to 23M : 180-920 ; 180-920
 24M to 5Y : 130-720 ; 130-720
 6Y to 11Y : 100-480 ; 100-480
 12Y to 17Y : 70-480 ; 70-480
 18Y to 55Y : 101-678 ; 101-678
 56Y to 150Y : 110-657 ; 110-657

FEMALE

No age : ; #N4055
 1D to 2M : 170-1100 ; 170-1100
 3M to 5M : 170-830 ; 170-830
 6M to 11M : 160-950 ; 160-950
 12M to 23M : 180-920 ; 180-920
 24M to 5Y : 130-720 ; 130-720
 6Y to 11Y : 100-480 ; 100-480
 12Y to 17Y : 70-480 ; 70-480
 18Y to 55Y : 101-678 ; 101-678
 56Y to 150Y : 110-657 ; 110-657

3325 CD4 (Helper Cells)
 Units: cells/uL

NO SEX

No age : ; #N3325
 1D to 2M : 1600-4000 ; 1600-4000
 3M to 5M : 1800-4000 ; 1800-4000
 6M to 11M : 1400-4300 ; 1400-4300
 12M to 23M : 1300-3400 ; 1300-3400
 24M to 5Y : 700-2200 ; 700-2200
 6Y to 11Y : 650-1500 ; 650-1500
 12Y to 17Y : 530-1300 ; 530-1300
 18Y to 55Y : 424-1509 ; 424-1509
 56Y to 150Y : 430-1513 ; 430-1513

MALE

No age : ; #N3325
 1D to 2M : 1600-4000 ; 1600-4000
 3M to 5M : 1800-4000 ; 1800-4000
 6M to 11M : 1400-4300 ; 1400-4300
 12M to 23M : 1300-3400 ; 1300-3400
 24M to 5Y : 700-2200 ; 700-2200

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MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
89825	(continued)	3325	CD4 (Helper Cells)	(continued)		
			6Y to 11Y	: 650-1500	; 650-1500	

12Y to 17Y	:	530-1300	;	530-1300
18Y to 55Y	:	424-1509	;	424-1509
56Y to 150Y	:	430-1513	;	430-1513
FEMALE				
No age	:		;	#N3325
1D to 2M	:	1600-4000	;	1600-4000
3M to 5M	:	1800-4000	;	1800-4000
6M to 11M	:	1400-4300	;	1400-4300
12M to 23M	:	1300-3400	;	1300-3400
24M to 5Y	:	700-2200	;	700-2200
6Y to 11Y	:	650-1500	;	650-1500
12Y to 17Y	:	530-1300	;	530-1300
18Y to 55Y	:	424-1509	;	424-1509
56Y to 150Y	:	430-1513	;	430-1513

3326 CD8 (Supp'r Cells)
Units: cells/uL

NO SEX				
No age	:		;	#N3326
1D to 2M	:	560-1700	;	560-1700
3M to 5M	:	590-1600	;	590-1600
6M to 11M	:	500-1700	;	500-1700
12M to 23M	:	620-2000	;	620-2000
24M to 5Y	:	490-1300	;	490-1300
6Y to 11Y	:	370-1100	;	370-1100
12Y to 17Y	:	330-920	;	330-920
18Y to 55Y	:	169-955	;	169-955
56Y to 150Y	:	101-839	;	101-839

MALE				
No age	:		;	#N3326
1D to 2M	:	560-1700	;	560-1700
3M to 5M	:	590-1600	;	590-1600
6M to 11M	:	500-1700	;	500-1700
12M to 23M	:	620-2000	;	620-2000
24M to 5Y	:	490-1300	;	490-1300
6Y to 11Y	:	370-1100	;	370-1100
12Y to 17Y	:	330-920	;	330-920
18Y to 55Y	:	169-955	;	169-955
56Y to 150Y	:	101-839	;	101-839

FEMALE				
No age	:		;	#N3326
1D to 2M	:	560-1700	;	560-1700
3M to 5M	:	590-1600	;	590-1600
6M to 11M	:	500-1700	;	500-1700
12M to 23M	:	620-2000	;	620-2000
24M to 5Y	:	490-1300	;	490-1300
6Y to 11Y	:	370-1100	;	370-1100
12Y to 17Y	:	330-920	;	330-920

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ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *	
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89825	(continued)						
		3326	CD8 (Supp'r Cells) (continued)				
			18Y to 55Y	: 169-955	; 169-955		
			56Y to 150Y	: 101-839	; 101-839		
			- - - - -				
		3327	H/S Ratio				
			NO SEX				
			All Ages :	1.0-	; >=1.0		
			MALE				
			All Ages :	1.0-	; >=1.0		
			FEMALE				
			All Ages :	1.0-	; >=1.0		
			- - - - -				
		6657	Comment				
			Expect results of form : The result is limited to 40 characters.				
			- - - - -				
8885	1/15/2009		Lymphocyte Proliferation, Antigens			MCR	
			Transport temp : Ambient <48 hours\Refrig NO\Frozen NO				
			- - - - -				
		8885	Lymphocyte Proliferation, Antigens				
			NO SEX				
			All Ages :		; Narrative report		
			MALE				
			All Ages :		; Narrative report		
			FEMALE				
			All Ages :		; Narrative report		
			- - - - -				
		29531	Candida albicans, Dilution 1				
			Units: S.I.				
			- - - - -				
		29532	Candida albicans, Dilution 2				
			Units: S.I.				
			- - - - -				
		29533	Candida albicans, Dilution 3				
			Units: S.I.				
			- - - - -				
		29534	Candida albicans, Dilution 4				
			Units: S.I.				
			- - - - -				
		26523	Interpretation Candida albicans				
			NO SEX				
			All Ages :		; #N8885		
			MALE				
			All Ages :		; #N8885		
			FEMALE				
			All Ages :		; #N8885		
			TEST CODE ALWAYS MESSAGE - [Z8885D]				

Z8885D Candida Albican dilutions used:
 1.0 mcg/mL
 5.0 mcg/mL
 10.0 mcg/mL
 20.0 mcg/mL

(continued next page)

MML MML Test setup information

ORDER CODE -----	EFF DATE ----	TC ----	TITLE -----	Checking Normals -----	Print normals (# coded) -----	Perform Site * -----
89825	(continued)					
		29525	Tetanus toxoid, Dilution 1 Units: S.I.			
		29526	Tetanus toxoid, Dilution 2 Units: S.I.			
		29527	Tetanus toxoid, Dilution 3 Units: S.I.			
		29528	Tetanus toxoid, Dilution 4 Units: S.I.			
		26528	Interpretation Tetanus toxoid NO SEX All Ages : ; #N8885 MALE All Ages : ; #N8885 FEMALE All Ages : ; #N8885 TEST CODE ALWAYS MESSAGE - [Z8885E] Z8885E Tetanus Toxoid dilutions used: 0.5 mcg/mL 1.0 mcg/mL 2.5 mcg/mL 5.0 mcg/mL			
8884	12/5/2008		Lymphocyte Proliferation, Mitogens Transport temp : Ambient <48 hours\Refrig NO\Frozen NO			MCR
		8884	Lymphocyte Proliferation, Mitogens NO SEX All Ages : ; Narrative report MALE All Ages : ; Narrative report FEMALE All Ages : ; Narrative report			

26504 Phytohemagglutinin, 0.5 mcg/mL
Units: %NC
- - - - -
26505 Phytohemagglutinin, 1.0 mcg/mL
Units: %NC
- - - - -
26506 Phytohemagglutinin, 2.5 mcg/mL
Units: %NC
- - - - -
26507 Phytohemagglutinin, 5.0 mcg/mL
Units: %NC
- - - - -
26508 Interpretation, PHA
(continued next page)

MML MML Test setup information

ORDER CODE	EFF DATE	TC	TITLE	Checking Normals	Print normals (# coded)	Perform Site *
-----	-----	-----	-----	-----	-----	-----
89825	(continued)					
		26508	Interpretation, PHA (continued)			
			NO SEX			
			All Ages :		; #N8884A	
			MALE			
			All Ages :		; #N8884A	
			FEMALE			
			All Ages :		; #N8884A	
			- - - - -			
		26509	Pokeweed, 0.5 mcg/mL			
			Units: %NC			
			- - - - -			
		26510	Pokeweed, 1.0 mcg/mL			
			Units: %NC			
			- - - - -			
		26511	Pokeweed, 5.0 mcg/mL			
			Units: %NC			
			- - - - -			
		26512	Pokeweed 10.0 mcg/mL			
			Units: %NC			
			- - - - -			
		26513	Interpretation, PWM			
			NO SEX			
			All Ages :		; #N8884A	
			MALE			
			All Ages :		; #N8884A	
			FEMALE			
			All Ages :		; #N8884A	
			- - - - -			
		26514	Conconavalin A, 0.5 mcg/mL			
			Units: %NC			

```

- - - - -
26515   Conconavalin A, 2.0 mcg/mL
        Units: %NC
- - - - -
26516   Conconavalin A, 5.0 mcg/mL
        Units: %NC
- - - - -
26517   Conconavalin A, 10.0 mcg/mL
        Units: %NC
- - - - -
26518   Interpretation ConA
        NO SEX
        All Ages :                ; #N8884A
        MALE
        All Ages :                ; #N8884A
        FEMALE
        All Ages :                ; #N8884A
- - - - -

```

MML MML Test setup information

*Performing Site Legend

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==
MCR      Mayo Clinic Dpt of Lab Med & Pathology      LAB DIRECTOR:  Franklin R. Cockerill, III, M.D.
        200 First Street SW
        Rochester, MN 55905
=====
==

```

*** End of Report ***

MML Messages used as normals

```

CODE      TEXT
-----
N3316     53-84 (0-2 mo)
          51-77 (3-5 mo)
          49-76 (6-11 mo)
          53-75 (12-23 mo)
          56-75 (2-5 y)
          60-76 (6-11 y)
          56-84 (12-17 y)
          59-83 (18-55 y)
          49-87 (>55 y)

```

N3318 6-32 (0-2 mo)
11-41 (3-5 mo)
14-37 (6-11 mo)
16-35 (12-23 mo)
14-33 (2-5 y)
13-27 (6-11 y)
6-23 (12-17 y)
6-22 (18-55 y)
3-20 (>55 y)

N3319 35-64 (0-2 mo)
35-56 (3-5 mo)
31-56 (6-11 mo)
32-51 (12-23 mo)
28-47 (2-5 y)
31-47 (6-11 y)
31-52 (12-17 y)
31-59 (18-55 y)
32-67 (>55 y)

MML

Messages used as normals

CODE	TEXT
-----	-----
N3320	12-28 (0-2 mo) 12-23 (3-5 mo) 12-24 (6-11 mo) 14-30 (12-23 mo) 16-30 (2-5 y) 18-35 (6-17 y) 12-38 (18-55 y) 8-40 (>55 y)

N3322 2500-5500 (0-2 mo)
2500-5600 (3-5 mo)
1900-5900 (6-11 mo)
2100-6200 (12-23 mo)
1400-3700 (2-5 y)
1200-2600 (6-11 y)
1000-2200 (12-17 y)
677-2383 (18-55 y)
617-2254 (>55 y)

N3324 300-2000 (0-2 mo)
430-3000 (3-5 mo)
610-2600 (6-11 mo)
720-2600 (12-23 mo)
390-1400 (2-5 y)

270-860 (6-11 y)
110-570 (12-17 y)
99-527 (18-55 y)
31-409 (>55 y)

N3325 1600-4000 (0-2 mo)
1800-4000 (3-5 mo)
1400-4300 (6-11 mo)
1300-3400 (12-23 mo)
700-2200 (2-5 y)
650-1500 (6-11 y)
530-1300 (12-17 y)
424-1509 (18-55 y)
430-1513 (>55 y)

N3326 560-1700 (0-2 mo)
590-1600 (3-5 mo)
500-1700 (6-11 mo)
620-2000 (12-23 mo)
490-1300 (2-5 y)
370-1100 (6-11 y)
330-920 (12-17 y)
169-955 (18-55 y)
101-839 (>55 y)

MML

Messages used as normals

CODE TEXT

N4054 4-18 (0-2 mo)
3-14 (3-5 mo)
3-15 (6-23 mo)
4-17 (2-11 y)
3-22 (12-17 y)
6-27 (18-55 y)
6-35 (>55 y)

N4055 170-1100 (0-2 mo)
170-830 (3-5 mo)
160-950 (6-11 mo)
180-920 (12-23 mo)
130-720 (2-5 y)
100-480 (6-11 y)
70-480 (12-17 y)
101-678 (18-55 y)
110-657 (>55 y)

N8884A >70 (Normal)
51-70 (Slightly Diminished)

30-50 (Diminished)
<30 (Markedly Diminished)

All Lymphocyte Proliferation,
Mitogens assays reported have
a cell viability of >85%.

N8885

>3: Reactive (Positive)
<=3: Non-reactive (Negative)

All Lymphocyte Proliferation,
Antigens assays reported have
a cell viability of >85%.

NN3321

0.66-4.60 (0-17 y)
0.99-3.15 (18-55 y)
1.00-3.33 (>55 y)

Total of 13 normals codes

*** End of Report ***



LABORATORY SERVICE REPORT

1-800-533-1710

PATIENT NAME TESTING, SHANNON		PATIENT NUMBER		AGE 32	SEX M	ACCESSION # G9132317
ORDERING PHYSICIAN		CLIENT ORDER #				ACCOUNT # LIAISONS
COLLECTION 07/21/09 11:27 A	RECEIVED	REPORT PRINTED 08/03/09 01:35 P		SPECIMEN INFORMATION DATE OF BIRTH: 10/15/1976		
DATE	TIME	DATE	TIME	DATE	TIME	
Test Client Attn: Mayo Liaisons 200 First Street SW Rochester, MN 55905 507-284-8202						

TEST REQUESTED	HI LO	REF RANGE	PERFORM SITE *
T-Cell Immune Competence Panel			
Phytohemagglutinin, 0.5 mcg/mL	59	%NC	MCR
Phytohemagglutinin, 1.0 mcg/mL	75	%NC	MCR
Phytohemagglutinin, 2.5 mcg/mL	84	%NC	MCR
Phytohemagglutinin, 5.0 mcg/mL	90	%NC	MCR
Interpretation, PHA			MCR
Normal Control cells are tested simultaneously. Maximum %NC of normal control proliferation is 90. -- EXPECTED VALUES -- >70 (Normal) 51-70 (Slightly Diminished) 30-50 (Diminished) <30 (Markedly Diminished) All Lymphocyte Proliferation, Mitogens assays reported have a cell viability of >85%.			
Pokeweed, 0.5 mcg/mL	72	%NC	MCR
Pokeweed, 1.0 mcg/mL	66	%NC	MCR
Pokeweed, 5.0 mcg/mL	55	%NC	MCR
Pokeweed 10.0 mcg/mL	53	%NC	MCR
Interpretation, PWM			MCR
Normal Control cells are tested simultaneously. Maximum %NC of normal control proliferation is 72. -- EXPECTED VALUES -- >70 (Normal) 51-70 (Slightly Diminished) 30-50 (Diminished)			

* Perform Site Legend on last page of report

PATIENT NAME TESTING, SHANNON	ORDER STATUS Final	COLLECTION DATE AND TIME 07/21/09 11:27 A
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Specimen receipt and report times are in CST/CDT

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Page 1 of 4

08/03/2009 1:37PM



LABORATORY SERVICE REPORT

1-800-533-1710

PATIENT NAME TESTING, SHANNON		PATIENT NUMBER		AGE 32	SEX M	ACCESSION # G9132317
ORDERING PHYSICIAN		CLIENT ORDER #				ACCOUNT # LIAISONS
COLLECTION 07/21/09 11:27 A	RECEIVED	REPORT PRINTED 08/03/09 01:35 P		SPECIMEN INFORMATION DATE OF BIRTH: 10/15/1976		
DATE	TIME	DATE	TIME			
Test Client Attn: Mayo Liaisons 200 First Street SW Rochester, MN 55905 507-284-8202						

TEST REQUESTED	HI LO	REF RANGE	PERFORM SITE *
<30 (Markedly Diminished) All Lymphocyte Proliferation, Mitogens assays reported have a cell viability of >85%.			
Concanavalin A, 0.5 mcg/mL	11	%NC	MCR
Concanavalin A, 2.0 mcg/mL	37	%NC	MCR
Concanavalin A, 5.0 mcg/mL	61	%NC	MCR
Concanavalin A, 10.0 mcg/mL	57	%NC	MCR
Interpretation ConA			MCR
Normal Control cells are tested simultaneously. Maximum %NC of normal control proliferation is 61. -- EXPECTED VALUES -- >70 (Normal) 51-70 (Slightly Diminished) 30-50 (Diminished) <30 (Markedly Diminished) All Lymphocyte Proliferation, Mitogens assays reported have a cell viability of >85%.			
Candida albicans, Dilution 1	<1.0	S.I.	MCR
Candida albicans, Dilution 2	1.2	S.I.	MCR
Candida albicans, Dilution 3	1.9	S.I.	MCR
Candida albicans, Dilution 4	2.1	S.I.	MCR

* Perform Site Legend on last page of report

PATIENT NAME TESTING, SHANNON	ORDER STATUS Final	COLLECTION DATE AND TIME 07/21/09 11:27 A
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LABORATORY SERVICE REPORT

1-800-533-1710

PATIENT NAME TESTING, SHANNON		PATIENT NUMBER		AGE 32	SEX M	ACCESSION # G9132317
ORDERING PHYSICIAN		CLIENT ORDER #			ACCOUNT # LIAISONS	
COLLECTION 07/21/09 11:27 A	RECEIVED	REPORT PRINTED 08/03/09 01:35 P		SPECIMEN INFORMATION DATE OF BIRTH: 10/15/1976		
DATE	TIME	DATE	TIME			
Test Client Attn: Mayo Liaisons 200 First Street SW Rochester, MN 55905 507-284-8202						

TEST REQUESTED	HI LO	REF RANGE	PERFORM SITE *
Interpretation Candida albicans			MCR
-- EXPECTED VALUES --			
>3: Reactive (Positive)			
<=3: Non-reactive (Negative)			
All Lymphocyte Proliferation, Antigen assays reported have a cell viability of >85%.			
Candida Albican dilutions used:			
1.0 mcg/mL			
5.0 mcg/mL			
10.0 mcg/mL			
20.0 mcg/mL			
Tetanus toxoid, Dilution 1	1.7	S.I.	MCR
Tetanus toxoid, Dilution 2	1.8	S.I.	MCR
Tetanus toxoid, Dilution 3	1.9	S.I.	MCR
Tetanus toxoid, Dilution 4	1.3	S.I.	MCR
Interpretation Tetanus toxoid			MCR
-- EXPECTED VALUES --			
>3: Reactive (Positive)			
<=3: Non-reactive (Negative)			
All Lymphocyte Proliferation, Antigen assays reported have a cell viability of >85%.			
Tetanus Toxoid dilutions used:			
0.5 mcg/mL			
1.0 mcg/mL			

* Perform Site Legend on last page of report

PATIENT NAME TESTING, SHANNON	ORDER STATUS Final	COLLECTION DATE AND TIME 07/21/09 11:27 A
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LABORATORY SERVICE REPORT

1-800-533-1710

PATIENT NAME TESTING, SHANNON		PATIENT NUMBER		AGE 32	SEX M	ACCESSION # G9132317
ORDERING PHYSICIAN		CLIENT ORDER #				ACCOUNT # LIAISONS
COLLECTION 07/21/09 11:27 A	RECEIVED	REPORT PRINTED 08/03/09 01:35 P		SPECIMEN INFORMATION DATE OF BIRTH: 10/15/1976		
DATE	TIME	DATE	TIME			
Test Client Attn: Mayo Liaisons 200 First Street SW Rochester, MN 55905 507-284-8202						

TEST REQUESTED	HI LO	REF RANGE	PERFORM SITE *
2.5 mcg/mL			
5.0 mcg/mL			
CD45 Lymph Count,	2.62	0.99-3.15	MCR
Flow			
% CD3 (T Cells)	82	59-83	MCR
% CD19 (B Cells)	6	6-22	MCR
% CD16+CD56 (NK cells)	11	6-27	MCR
% CD4 (Helper Cells) L	27	31-59	MCR
% CD8 (Supp'r Cells) H	56	12-38	MCR
CD3 (T Cells)	2148	677-2383	MCR
CD19 (B Cells)	168	99-527	MCR
CD16+CD56 (NK cells)	281	101-678	MCR
CD4 (Helper Cells)	713	424-1509	MCR
CD8 (Supp'r Cells) H	1466	169-955	MCR
H/S Ratio L	0.49	>=1.0	MCR

* PERFORMING SITE

MCR	Mayo Clinic Dpt of Lab Med & Pathology 200 First Street SW Rochester, MN 55905	Lab Director: Franklin R. Cockerill, III, M.D.
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PATIENT NAME TESTING, SHANNON	ORDER STATUS Final	COLLECTION DATE AND TIME 07/21/09 11:27 A
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Specimen receipt and report times are in CST/CDT

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Page 4 of 4