

**New York State Department of Health
Wadsworth Center**

Proficiency Testing Program

18-Jan-06

**DIAGNOSTIC IMMUNOLOGY &
HUMAN IMMUNODEFICIENCY VIRUS
SUMMARY ANALYSIS**

**Proficiency Test Event
18-Jan-06**

**Diagnostic Immunology & Human Immunodeficiency Virus
Summary Report**

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The data summarized in this report were tabulated from test results and accompanying information submitted by laboratories that participated in the January 18, 2006 Diagnostic Immunology and Human Immunodeficiency Virus proficiency test events. Participants are encouraged to review the data and to compare results and test kit performances.

Laboratories were evaluated on the basis of their responses for each analyte and on overall performance for all the analytes tested in the permit category. Appropriate responses were determined by participant consensus requiring 80% agreement in each test.

Qualitative/quantitative results were graded in relation to results given by participants for specific test kits. When the number of participants that used a specific test kit was less than 6, results were graded considering results given for the method used. Target values and acceptable ranges were determined as indicated in Page 5.

Grading Criteria:

- ⊖ When both qualitative and quantitative results were reported ten points were deducted for each incorrect result. When only qualitative OR quantitative results were reported twenty points were deducted for each incorrect result.
- ⊖ For **Diagnostic Services** failure to attain an overall testing score of at least 80% is unsatisfactory performance
- ⊖ For **Donor Services** failure to attain an overall testing score of 100% is unsatisfactory
- ⊖ For **HIV** failure to attain an overall testing score of 100% is unsatisfactory performance.
- ⊖ Laboratories failing two out of three consecutive proficiency test events for an analyte or for the permit category will fail the proficiency testing program for the analyte or for the permit category and may be required to cease patient testing for that analyte/category.

Summary Tables

Test kit manufacturer names are in *italics*. In some tables, test kits are grouped under test methods shown in bold letters. In all tables, test methods and test kit manufacturer names are listed in alphabetic order. Only the testing systems used by 6 or more laboratories are listed in this report.

For qualitative tests, results are summarized as the number of laboratories that reported a test sample as reactive to the number that reported it as non-reactive. In addition, where test results depend on a quantitative value (e.g. titer, IU/ml) the values reported are given in separate tables. They are expressed, where applicable, as the Mean \pm S.D. when six or more laboratories reported data.

For quantitative tests, values reported variously as mg/dl, IU/ml, ratio, etc. are given as the Mean \pm S.D. when six or more laboratories reported results. Titers are given as endpoint titers.

Disclaimer

The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health.

Determination of Acceptable Responses

Analyte or Test	Criteria
Alpha-1 Antitrypsin	Target value \pm 3 S.D.
Antinuclear Antibody	Target value \pm 2 dilutions or positive or negative
Antistreptolysin O	Target value \pm 2 dilutions or positive or negative
Complement C'3, C'4	Target value \pm 3 S.D.
Cytomegalovirus Antibody	Reactive / nonreactive
Hepatitis (HbsAg, anti-HBc, HBeAg, and HCAb)	Reactive / nonreactive
HIV 1 Ab, Ag	Reactive / nonreactive
HTLV 1 Ab (EIA Ab, WB)	Reactive / nonreactive
Lyme Disease Ab, WB IgG, IgM	Reactive / nonreactive
Immunoglobulin A, E, M	Target value \pm 3 S.D.
Immunoglobulin G	Target value \pm 25 %
Infectious Mononucleosis	Target value \pm 2 dilutions or positive or negative
Rheumatoid Factor	Target value \pm 2 dilutions or positive or negative
Rubella Ab, IgM	Target value \pm 2 dilutions or positive or negative or Immune or nonimmune
Syphilis Reagin Antibody	Target value \pm 1 dilution
Syphilis Treponemal Antibody	Reactive / nonreactive

Antinuclear Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No.	46				47				48				49				50			
		Manufacturer	Labs	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%
EIA	57	56	98%	1	2%	57	100%	0	0%	57	100%	0	0%	0	0%	57	100%	2	4%	55	96%
<i>Bio-Rad</i>	16	16	100%		0%	16	100%		0%	16	100%		0%		0%	16	100%		0%	16	100%
<i>Diamedix</i>	12	11	92%	1	8%	12	100%		0%	12	100%		0%		0%	12	100%		0%	12	100%
<i>The Binding Site</i>	8	8	100%		0%	8	100%		0%	8	100%		0%		0%	8	100%		0%	8	100%
<i>Wampole/Zeus</i>	9	9	100%		0%	9	100%		0%	9	100%		0%		0%	9	100%		0%	9	100%
<i>Others</i>	12	12	100%		0%	12	100%		0%	12	100%		0%		0%	12	100%	2	17%	10	83%
IFA	76	76	100%	0	0%	76	100%	0	0%	76	100%	0	0%	0	0%	76	100%	0	0%	76	100%
<i>Bio-Rad</i>	27	27	100%		0%	27	100%		0%	27	100%		0%		0%	27	100%		0%	27	100%
<i>Immuno</i>	6	6	100%		0%	6	100%		0%	6	100%		0%		0%	6	100%		0%	6	100%
<i>The Binding Site</i>	9	9	100%		0%	9	100%		0%	9	100%		0%		0%	9	100%		0%	9	100%
<i>Wampole/Zeus</i>	21	21	100%		0%	21	100%		0%	21	100%		0%		0%	21	100%		0%	21	100%
<i>Others</i>	13	13	100%		0%	13	100%		0%	13	100%		0%		0%	13	100%		0%	13	100%
Other Methods	11	11	100%		0%	11	100%		0%	10	91%	1	9%		0%	11	100%		0%	11	100%
Analyte Total	144	143	99%	1	1%	144	100%	0	0%	143	99%	1	1%	0	0%	144	100%	2	1%	142	99%

Note: Of the 114 laboratories reporting staining patterns: 97% found test sample 49 to stain Speckled, and 96% found test sample 50 to stain Homogenous.

Antinuclear Antibody

The number of laboratories that reported titers is listed for positive test samples 49 and 50. Only testing systems with 6 or more laboratories reporting titers are listed in this table.

Method	No. Labs	Sample 49							Sample 50							
		160	320	640	1280	2560	5120	10240	20	40	80	160	320	640	1280	2560
IFA																
<i>Bio-Rad</i>	27	2	5	9	5	2					4	12	6	4		
<i>Wampole/ Zeus</i>	18	2	1	4	2	3		1			2	7	6	3		
<i>The Binding site</i>	8	1	1	3	3					1	1	3	2	1		
EIA																
<i>Bio-Rad</i>	9		2	2	1	1					1	4	3			

Note: The number of labs reporting specific titers may not add up to the total number of labs for that system because some labs are not reporting endpoint titers.

Antistreptolysin O

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	16				17				18				19				20			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
Hemagglutination	10	10	100%	0	0%	0	0%	10	100%	0	0%	10	100%	10	100%	0	0%	10	100%	0	0%
<i>Wampole /Zues</i>	10	10	100%		0%		0%	10	100%		0%	10	100%	10	100%		0%	10	100%		0%
Latex Agglutination	89	89	100%	0	0%	0	0%	89	100%	1	1%	88	99%	89	100%	0	0%	89	100%	0	0%
<i>Behring</i>	21	21	100%		0%		0%	21	100%		0%	21	100%	21	100%		0%	21	100%		0%
<i>Fisher</i>	28	28	100%		0%		0%	28	100%		0%	28	100%	28	100%		0%	28	100%		0%
<i>Remel</i>	12	12	100%		0%		0%	12	100%		0%	12	100%	12	100%		0%	12	100%		0%
<i>True Medix</i>	7	7	100%		0%		0%	7	100%		0%	7	100%	7	100%		0%	7	100%		0%
<i>Others</i>	21	21	100%		0%		0%	21	100%	1	5%	20	95%	21	100%		0%	21	100%		0%
Nephelometry	29	29	100%	0	0%	0	0%	29	100%	0	0%	29	100%	29	100%	0	0%	29	100%	0	0%
<i>Beckman</i>	16	16	100%		0%		0%	16	100%		0%	16	100%	16	100%		0%	16	100%		0%
<i>Behring</i>	13	13	100%		0%		0%	13	100%		0%	13	100%	13	100%		0%	13	100%		0%
Turbidimetry	17	17	100%	0	0%	0	0%	17	100%	0	0%	17	100%	17	100%	0	0%	17	100%	0	0%
<i>Roche Diagnostics</i>	12	12	100%		0%		0%	12	100%		0%	12	100%	12	100%		0%	12	100%		0%
<i>Others</i>	5	5	100%		0%		0%	5	100%		0%	5	100%	5	100%		0%	5	100%		0%
Other Methods	2	2	100%		0%		0%	2	100%		0%	2	100%	2	100%		0%	2	100%		0%
Analyte Total	147	147	100%	0	0%	0	0%	147	100%	1	1%	146	99%	147	100%	0	0%	147	100%	0	0%

Antistreptolysin O Latex Agglutination Procedures

The number of laboratories that reported titers is listed for positive test samples 17 and 18. Only testing systems with 6 or more laboratories reporting titers are listed in this table.

Method <i>Manufacturer</i>	No. Labs	Sample 17 Titers					Sample 18 Titers				
		100	200	400	800	1600	100	200	400	800	1600
<i>Biokit/ Fisher</i>	16		2	11	3			3	7	6	
<i>Dade Behring</i> ^[1]	18			10	4	1			8	7	
<i>Remel</i>	9			9					9		

Note: The number of labs reporting specific titers may not add up to the total number of labs for that system because some labs are not reporting endpoint titers.

Antistreptolysin O

Results are summarized for positive test samples 17 and 18. The Mean values \pm S.D. are given where 6 or more laboratories reported quantitative results. Outlier values are omitted.

Method	No.	IU/ml	
<i>Manufacturer</i>	Labs	Sample 17	Sample 18
Nephelometry			
<i>Behring</i>	13	713 \pm 73	741 \pm 75
<i>Beckman Coulter Array</i>	6	569 \pm 39	575 \pm 51
<i>Beckman Image</i>	10	545 \pm 35	554 \pm 44
Turbidimetry			
<i>Roche Diagnostics</i>	10	785 \pm 40	787 \pm 21

Cytomegalovirus Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	11				12				13				14				15			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
EIA	39	39	100%	0	0%	0	0%	39	100%	6	15%	27	69%	0	0%	39	100%	39	100%	0	0%
<i>Abbott</i> ^[1]	7	7	100%		0%		0%	7	100%		0%	4	57%		0%	7	100%	7	100%		0%
<i>Diamedix</i>	9	9	100%		0%		0%	9	100%		0%	9	100%		0%	9	100%	9	100%		0%
<i>Wampole /Zeus</i> ^[2]	18	18	100%		0%		0%	18	100%	4	22%	11	61%		0%	18	100%	18	100%		0%
<i>Others</i>	5	5	100%		0%		0%	5	100%	2	40%	3	60%		0%	5	100%	5	100%		0%
ELFA	22	22	100%	0	0%	0	0%	22	100%	0	0%	22	100%	0	0%	22	100%	22	100%	0	0%
<i>bioMérieux Vidas</i>	22	22	100%		0%		0%	22	100%		0%	22	100%		0%	22	100%	22	100%		0%
Latex Agglutination	10	10	100%	0	0%	0	0%	10	100%	0	0%	10	100%	0	0%	10	100%	10	100%	0	0%
<i>Becton Dickinson</i>	10	10	100%		0%		0%	10	100%		0%	10	100%		0%	10	100%	10	100%		0%
Chemiluminescence	14	14	100%	0	0%	0	0%	14	100%	1	7%	13	93%	0	0%	14	100%	14	100%	0	0%
<i>Diagnostic Products</i>	14	14	100%		0%		0%	14	100%	1	7%	13	93%		0%	14	100%	14	100%		0%
Hemagglutination	10	10	100%	0	0%	0	0%	10	100%	0	0%	10	100%	0	0%	10	100%	10	100%	0	0%
<i>Olympus</i>	10	10	100%		0%		0%	10	100%		0%	10	100%		0%	10	100%	10	100%		0%
Other Methods	5	5	100%	0	0%	0	0%	5	100%	0	0%	5	100%	0	0%	5	100%	5	100%	0	0%
Analyte Total	100	100	100%	0	0%	0	0%	100	100%	7	7%	87	87%	0	0%	100	100%	100	100%	0	0%

^[1] An equivocal or borderline result on sample #13 was reported by 3 labs.

^[2] An equivocal or borderline result on sample #13 was reported by 3 labs.

Note: The expected result for sample #13 is reactive. Laboratories who reported any other result than reactive for this sample should critically examine their protocol and test kit/method.

Cytomegalovirus Antibody

Results are summarized for positive test samples 12, 13 and 14. For the procedure indicated, the Mean values \pm S.D. are given where 6 or more laboratories reported quantitative results.

<i>Manufacturer</i>	No. Labs	Units	Participant Results/ Sample Number		
			12	13	14
Chemiluminescence					
<i>Diagnostic Products</i>	7	Ratio	3.94 \pm 0.56	1.24 \pm 0.13	3.38 \pm 0.46
EIA					
<i>Wampole/ Zeus Scientific</i>	15	Ratio	1.93 \pm 0.22	1.10 \pm 0.25	1.53 \pm 0.19
ELFA					
<i>bioMerieux Vidas</i>	13	AU/ml	26.1 \pm 2.03	8.38 \pm 0.65	21.8 \pm 1.72

Hepatitis B Core Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	6				7				8				9				10			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
Chemiluminescence	68	1	1%	67	99%	68	100%	0	0%	67	99%	1	1%	1	1%	67	99%	68	100%	0	0%
<i>Bayer</i>	19		0%	19	100%	19	100%		0%	19	100%		0%		0%	19	100%	19	100%		0%
<i>Diagnostic Products</i>	22		0%	22	100%	22	100%		0%	21	95%	1	5%		0%	22	100%	22	100%		0%
<i>Ortho</i>	27	1	4%	26	96%	27	100%		0%	27	100%		0%	1	4%	26	96%	27	100%		0%
EIA	86	0	0%	86	100%	86	100%	0	0%	86	100%	0	0%	0	0%	86	100%	86	100%	0	0%
<i>Abbott</i>	64		0%	64	100%	64	100%		0%	64	100%		0%		0%	64	100%	64	100%		0%
<i>DiaSorin</i>	9		0%	9	100%	9	100%		0%	9	100%		0%		0%	9	100%	9	100%		0%
<i>Ortho</i>	12		0%	12	100%	12	100%		0%	12	100%		0%		0%	12	100%	12	100%		0%
<i>Other</i>	1		0%	1	100%	1	100%		0%	1	100%		0%		0%	1	100%	1	100%		0%
Other Methods	2		0%	2	100%	2	100%		0%	2	100%		0%		0%	2	100%	2	100%		0%
Analyte Total	156	1	1%	155	99%	156	100%	0	0%	155	99%	1	1%	1	1%	155	99%	156	100%	0	0%

Hepatitis B Surface Antigen

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	6				7				8				9				10			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
Chemiluminescence	81	0	0%	81	100%	78	96%	3	4%	81	100%	0	0%	1	1%	80	99%	69	85%	6	7%
<i>Bayer</i>	20		0%	20	100%	20	100%		0%	20	100%		0%		0%	20	100%	20	100%		0%
<i>Diagnostic Products</i>	25		0%	25	100%	25	100%		0%	25	100%		0%	1	4%	24	96%	25	100%		0%
<i>Ortho</i> ^[1]	36		0%	36	100%	33	92%	3	8%	36	100%		0%		0%	36	100%	24	67%	6	17%
EIA	119	0	0%	119	100%	117	98%	2	2%	119	100%	0	0%	0	0%	119	100%	116	97%	3	3%
<i>Abbott</i>	87		0%	87	100%	87	100%		0%	87	100%		0%		0%	87	100%	84	97%	3	3%
<i>Bio-Rad</i>	9		0%	9	100%	8	89%	1	11%	9	100%		0%		0%	9	100%	9	100%		0%
<i>Ortho</i>	8		0%	8	100%	8	100%		0%	8	100%		0%		0%	8	100%	8	100%		0%
<i>Roche</i>	11		0%	11	100%	11	100%		0%	11	100%		0%		0%	11	100%	11	100%		0%
<i>Other</i>	4		0%	4	100%	3	75%	1	25%	4	100%		0%		0%	4	100%	4	100%		0%
Other Methods	3		0%	3	100%	3	100%		0%	3	100%		0%		0%	3	100%	2	67%	1	33%
Analyte Total	203	0	0%	203	100%	198	98%	5	2%	203	100%	0	0%	1	0%	202	100%	187	92%	10	5%

^[1] An equivocal or borderline result on sample #10 was reported by 6 labs.

Note: The expected result for sample #10 is nonreactive. Laboratories who reported any other result than nonreactive for this sample should critically examine their protocol and test kit/method.

Hepatitis Be Antigen

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	66				67				68				69				70			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
EIA	34	1	3%	33	97%	1	3%	33	97%	34	100%	0	0%	34	100%	0	0%	34	100%	0	0%
<i>DiaSorin</i>	33		0%	33	100%		0%	33	100%	33	100%		0%	33	100%		0%	33	100%		0%
<i>Other</i>	1	1	100%		0%	1	100%		0%	1	100%		0%	1	100%		0%	1	100%		0%
Other Methods	6		0%	6	100%		0%	6	100%	6	100%		0%	6	100%		0%	6	100%		0%
Analyte Total	40	1	3%	39	98%	1	3%	39	98%	40	100%	0	0%	40	100%	0	0%	40	100%	0	0%

Hepatitis C Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	71				72				73				74				75			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
Chemiluminescence	60	60	100%	0	0%	60	100%	0	0%	60	100%	0	0%	60	100%	0	0%	0	0%	60	100%
<i>Bayer</i>	26	26	100%		0%	26	100%		0%	26	100%		0%	26	100%		0%		0%	26	100%
<i>Ortho</i>	34	34	100%		0%	34	100%		0%	34	100%		0%	34	100%		0%		0%	34	100%
EIA	105	105	100%	0	0%	104	99%	1	1%	105	100%	0	0%	105	100%	0	0%	0	0%	105	100%
<i>Abbott</i>	78	78	100%		0%	77	99%	1	1%	78	100%		0%	78	100%		0%		0%	78	100%
<i>Ortho</i>	27	27	100%		0%	27	100%		0%	27	100%		0%	27	100%		0%		0%	27	100%
Other Methods	2	2	100%		0%	2	100%		0%	2	100%		0%	2	100%		0%		0%	2	100%
Analyte Total	167	167	100%	0	0%	166	99%	1	1%	167	100%	0	0%	167	100%	0	0%	0	0%	167	100%

HIV Antibody

Method <i>Manufacturer</i>		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
		31				32				33				34				35			
No. Labs	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	
EIA	131	131	100%	0	0%	131	100%	0	0%	131	100%	0	0%	0	0%	131	100%	130	99%	1	1%
<i>Abbott</i>	71	71	100%		0%	71	100%		0%	71	100%		0%		0%	71	100%	70	99%	1	1%
<i>bioMérieux</i>	18	18	100%		0%	18	100%		0%	18	100%		0%		0%	18	100%	18	100%		0%
<i>Bio-Rad</i>	42	42	100%		0%	42	100%		0%	42	100%		0%		0%	42	100%	42	100%		0%
Rapid EIA	87	87	100%	0	0%	87	100%	0	0%	86	99%	1	1%	1	1%	86	99%	87	100%	0	0%
<i>Orasure</i>	87	87	100%		0%	87	100%		0%	86	99%	1	1%	1	1%	86	99%	87	100%		0%
Rapid Immunoassay	41	41	100%	0	0%	41	100%	0	0%	40	98%	1	2%	0	0%	41	100%	41	100%	0	0%
<i>Medmira</i>	29	29	100%		0%	29	100%		0%	28	97%	1	3%		0%	29	100%	29	100%		0%
<i>Trinity</i>	10	10	100%		0%	10	100%		0%	10	100%		0%		0%	10	100%	10	100%		0%
<i>Other</i>	2	2	100%		0%	2	100%		0%	2	100%		0%		0%	2	100%	2	100%		0%
Western Blot	43	43	100%	0	0%	42	98%	0	0%	42	98%	0	0%	0	0%	43	100%	43	100%	0	0%
<i>Bio-Rad [1]</i>	38	38	100%		0%	37	97%		0%	37	97%		0%		0%	38	100%	38	100%		0%
<i>Other</i>	5	5	100%		0%	5	100%		0%	5	100%		0%		0%	5	100%	5	100%		0%
Other Methods	4	4	100%	0	0%	4	100%	0	0%	4	100%	0	0%	0	0%	4	100%	4	100%	0	0%
Analyte Total	306	306	100%	0	0%	305	100%	0	0%	303	99%	2	1%	1	0%	305	100%	305	100%	1	0%

[1] One lab reported an equivocal/indeterminate result for sample 32.

HIV p24 Antigen

Method <i>Manufacturer</i>		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
		61				62				63				64				65			
No. Labs	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	
EIA	4	4	100%	0	0%	0	0%	4	100%	4	100%	0	0%	4	100%	0	0%	4	100%	0	0%
<i>Beckman Coulter</i>	4	4	100%		0%		0%	4	100%	4	100%		0%	4	100%		0%	4	100%		0%
Analyte Total	4	4	100%	0	0%	0	0%	4	100%	4	100%	0	0%	4	100%	0	0%	4	100%	0	0%

HTLV Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	36				37				38				39				40			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
EIA	45	45	100%	0	0%	0	0%	45	100%	45	100%	0	0%	45	100%	0	0%	45	100%	0	0%
<i>Abbott</i>	28	28	100%		0%		0%	28	100%	28	100%		0%	28	100%		0%	28	100%		0%
<i>bioMérieux</i>	17	17	100%		0%		0%	17	100%	17	100%		0%	17	100%		0%	17	100%		0%
Analyte Total	45	45	100%	0	0%	0	0%	45	100%	45	100%	0	0%	45	100%	0	0%	45	100%	0	0%

Infectious Mononucleosis

Method <i>Manufacturer</i>		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
		26				27				28				29				30			
No. Labs	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	
CICA	28	28	100%	0	0%	1	4%	27	96%	28	100%	0	0%	27	96%	1	4%	28	100%	0	0%
<i>Polymedco</i>	9	9	100%		0%		0%	9	100%	9	100%		0%	9	100%		0%	9	100%		0%
<i>Others</i>	19	19	100%		0%	1	5%	18	95%	19	100%		0%	18	95%	1	5%	19	100%		0%
Hemagglutination	54	54	100%	0	0%	0	0%	54	100%	54	100%	0	0%	54	100%	0	0%	54	100%	0	0%
<i>Becton Dickinson</i>	6	6	100%		0%		0%	6	100%	6	100%		0%	6	100%		0%	6	100%		0%
<i>Fisher</i>	16	16	100%		0%		0%	16	100%	16	100%		0%	16	100%		0%	16	100%		0%
<i>Wampole/Zeus</i>	28	28	100%		0%		0%	28	100%	28	100%		0%	28	100%		0%	28	100%		0%
<i>Others</i>	4	4	100%		0%		0%	4	100%	4	100%		0%	4	100%		0%	4	100%		0%
Latex Agglutination	152	152	100%	0	0%	1	1%	151	99%	150	99%	2	1%	152	100%	0	0%	152	100%	0	0%
<i>Fisher</i>	52	52	100%		0%		0%	52	100%	52	100%		0%	52	100%		0%	52	100%		0%
<i>Remel</i>	19	19	100%		0%		0%	19	100%	19	100%		0%	19	100%		0%	19	100%		0%
<i>True Medix</i>	9	9	100%		0%		0%	9	100%	8	89%	1	11%	9	100%		0%	9	100%		0%
<i>Wampole/Zeus</i>	54	54	100%		0%	1	2%	53	98%	53	98%	1	2%	54	100%		0%	54	100%		0%
<i>Others</i>	18	18	100%		0%		0%	18	100%	18	100%		0%	18	100%		0%	18	100%		0%
Solid Phase IA	56	56	100%	0	0%	0	0%	56	100%	56	100%	0	0%	56	100%	0	0%	56	100%	0	0%
<i>Seradyn</i>	22	22	100%		0%		0%	22	100%	22	100%		0%	22	100%		0%	22	100%		0%
<i>Wampole/Zeus</i>	24	24	100%		0%		0%	24	100%	24	100%		0%	24	100%		0%	24	100%		0%
<i>Others</i>	10	10	100%		0%		0%	10	100%	10	100%		0%	10	100%		0%	10	100%		0%
Other Methods	4	3	75%	1	25%		0%	4	100%	4	100%		0%	4	100%		0%	4	100%		0%
Analyte Total	294	293	100%	1	0%	2	1%	292	99%	292	99%	2	1%	293	100%	1	0%	294	100%	0	0%

Infectious Mononucleosis Latex Agglutination Procedures

The number of laboratories that reported titers are summarized for positive test sample 27. The dilution schemes laboratories used are represented by the letter A and B. Only methods with 6 or more laboratories reporting titers are listed in this table.

Method	No. Labs	Sample 27 Titers						
		A	4	8	16	32	64	
		B	7	14	28	56		
Latex Agglutination	18	A			1	5	3	1
		B	1	1	1			

Lyme Disease Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	41				42				43				44				45			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
CICA	6	6	100%	0	0%	0	0%	6	100%	2	33%	4	67%	0	0%	6	100%	6	100%	0	0%
<i>Wampole /Zeus</i>	6	6	100%		0%		0%	6	100%	2	33%	4	67%		0%	6	100%	6	100%		0%
EIA	70	69	99%	1	1%	0	0%	70	100%	0	0%	70	100%	0	0%	70	100%	69	99%	1	1%
<i>Diamedix</i>	12	12	100%		0%		0%	12	100%		0%	12	100%		0%	12	100%	12	100%		0%
<i>Immunetics</i>	11	11	100%		0%		0%	11	100%		0%	11	100%		0%	11	100%	11	100%		0%
<i>MarDx</i>	11	11	100%		0%		0%	11	100%		0%	11	100%		0%	11	100%	11	100%		0%
<i>Wampole /Zeus</i>	30	29	97%	1	3%		0%	30	100%		0%	30	100%		0%	30	100%	29	97%	1	3%
<i>Others</i>	6	6	100%		0%		0%	6	100%		0%	6	100%		0%	6	100%	6	100%		0%
ELFA	32	32	100%	0	0%	0	0%	32	100%	0	0%	32	100%	0	0%	32	100%	32	100%	0	0%
<i>bioMérieux</i>	32	32	100%		0%		0%	32	100%		0%	32	100%		0%	32	100%	32	100%		0%
Other Methods	2	2	100%		0%		0%	2	100%		0%	2	100%		0%	2	100%	2	100%		0%
Analyte Total	110	109	99%	1	1%	0	0%	110	100%	2	2%	108	98%	0	0%	110	100%	109	99%	1	1%

Note: The expected result for sample #43 is reactive. Laboratories who reported any other result than reactive for this sample should critically examine their protocol and test kit/method.

Lyme Western Blot IgG

		Participant Results/ Sample Number																													
		R = Reactive/ Positive; N = Non-Reactive/ Negative; E = Equivocal/ Indeterminate																													
Method	No. Labs	41*						42						43						44						45					
		N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%
Western Blot - IgG	26	26	100%	0	0%	0	0%	0	0%	0	0%	26	100%	0	0%	2	8%	24	92%	0	0%	1	4%	25	96%	26	100%	0	0%	0	0%
MarDx	26	26	100%		0%		0%		0%		0%	26	100%		0%	2	8%	24	92%		0%	1	4%	25	96%	26	100%		0%		0%
Other Methods	4	4	100%		0%		0%		0%		0%	4	100%		0%		0%	4	100%		0%		0%	4	100%	4	100%		0%		0%
Analyte Total	30	30	100%	0	0%	0	0%	0	0%	0	0%	30	100%	0	0%	2	7%	28	93%	0	0%	1	3%	29	97%	30	100%	0	0%	0	0%

Lyme Western Blot IgM

		Participant Results/ Sample Number																													
		R = Reactive/ Positive; N = Non-Reactive/ Negative; E = Equivocal/ Indeterminate																													
Method	No. Labs	41						42						43						44						45					
		N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%
Western Blot - IgM	26	26	100%	0	0%	0	0%	1	4%	0	0%	25	96%	23	88%	2	8%	1	4%	25	96%	0	0%	1	4%	26	100%	0	0%	0	0%
MarDx	26	26	100%		0%		0%	1	4%		0%	25	96%	23	88%	2	8%	1	4%	25	96%		0%	1	4%	26	100%		0%		0%
Other Methods	3	3	100%		0%		0%		0%		0%	3	100%	2	67%	1	33%		0%	2	67%	1	33%		0%	3	100%		0%		0%
Analyte Total	29	29	100%	0	0%	0	0%	1	3%	0	0%	28	97%	25	86%	3	10%	1	3%	27	93%	1	3%	1	3%	29	100%	0	0%	0	0%

Rheumatoid Factor

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	26				27				28				29				30			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
EIA	10	10	100%	0	0%	0	0%	10	100%	10	100%	0	0%	10	100%	0	0%	10	100%	0	0%
	<i>Diamedix</i>	7	100%		0%		0%	7	100%	7	100%		0%	7	100%		0%	7	100%		0%
	<i>Others</i>	3	100%		0%		0%	3	100%	3	100%		0%	3	100%		0%	3	100%		0%
Latex Agglutination	134	134	100%	0	0%	0	0%	134	100%	134	100%	0	0%	134	100%	0	0%	134	100%	0	0%
	<i>Becton Dickinson</i>	20	100%		0%		0%	20	100%	20	100%		0%	20	100%		0%	20	100%		0%
	<i>Behring</i>	10	100%		0%		0%	10	100%	10	100%		0%	10	100%		0%	10	100%		0%
	<i>Fisher</i>	49	100%		0%		0%	49	100%	49	100%		0%	49	100%		0%	49	100%		0%
	<i>Remel</i>	6	100%		0%		0%	6	100%	6	100%		0%	6	100%		0%	6	100%		0%
	<i>Seradyn</i>	13	100%		0%		0%	13	100%	13	100%		0%	13	100%		0%	13	100%		0%
	<i>True Medix</i>	8	100%		0%		0%	8	100%	8	100%		0%	8	100%		0%	8	100%		0%
	<i>Wampole/Zeus</i>	15	100%		0%		0%	15	100%	15	100%		0%	15	100%		0%	15	100%		0%
	<i>Others</i>	13	100%		0%		0%	13	100%	13	100%		0%	13	100%		0%	13	100%		0%
Nephelometry	44	44	100%	0	0%	0	0%	44	100%	44	100%	0	0%	44	100%	0	0%	44	100%	0	0%
	<i>Beckman Coulter</i>	23	100%		0%		0%	23	100%	23	100%		0%	23	100%		0%	23	100%		0%
	<i>Behring</i>	21	100%		0%		0%	21	100%	21	100%		0%	21	100%		0%	21	100%		0%
Turbidimetry	35	35	100%	0	0%	0	0%	35	100%	35	100%	0	0%	35	100%	0	0%	35	100%	0	0%
	<i>Beckman Coulter</i>	10	100%		0%		0%	10	100%	10	100%		0%	10	100%		0%	10	100%		0%
	<i>Roche</i>	21	100%		0%		0%	21	100%	21	100%		0%	21	100%		0%	21	100%		0%
	<i>Others</i>	4	100%		0%		0%	4	100%	4	100%		0%	4	100%		0%	4	100%		0%
Other Methods	5	5	100%		0%		0%	5	100%	5	100%		0%	5	100%		0%	5	100%		0%
Analyte Total	228	228	100%	0	0%	0	0%	228	100%	228	100%	0	0%	228	100%	0	0%	228	100%	0	0%

Rheumatoid Factor Latex Agglutination Procedure

The number of laboratories that reported titers is listed for positive test sample 27. The dilution schemes laboratories used are represented by the letter A (IU/ml) and B (titer), testing systems with 6 or more laboratories reporting titers are listed in this table.

<i>Manufacturer</i>	No. Labs	A B	Sample 27 Titers							
			80 8	160 16	320 32	640 64	1280 128	2560 256	5120 512	
<i>Fisher</i>	38	A			1	4	7		4	1
		B			2	2	7		3	1
<i>Becton Dickson</i>	16	A		1	2	7	3			
		B								
<i>Seradyn</i>	8	A				1	1			
		B		2	1	2				
<i>Dade Behring</i>	8	A				1	1	2		
		B	1			1	1			
<i>Wampole</i>	9	A		3	2	2				

1

Note: The number of labs reporting specific titers may not add up to the total number of labs for that system because some labs are not reporting endpoint titers.

Rheumatoid Factor

Results are summarized for positive test sample 27. The Mean values \pm S.D. are given where 6 or more laboratories reported quantitative results. Outlier values are omitted.

Method <i>Manufacturer</i>	No. Labs	IU/ml Sample 27
Nephelometry		
<i>Beckman Coulter Array</i>	7	1341 \pm 133
<i>Beckman Coulter IMMAGE</i>	16	1256 \pm 114
<i>Behring PROSPEC</i>	7	1637 \pm 147
<i>Behring Nephelometer</i>	8	1650 \pm 191
Turbidimetry		
<i>Roche Diag. Cobas</i>	13	753 \pm 67

Rubella IgG Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	11				12				13 *				14				15			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
Chemiluminescence	57	56	98%	1	2%	1	2%	55	96%	4	7%	47	82%	57	100%	0	0%	57	100%	0	0%
<i>Bayer</i>	25	24	96%	1	4%		0%	25	100%		0%	25	100%	25	100%		0%	25	100%		0%
<i>Beckman</i>	13	13	100%		0%	1	8%	11	85%	4	31%	6	46%	13	100%		0%	13	100%		0%
<i>Diagnostic Products</i>	19	19	100%		0%		0%	19	100%		0%	16	84%	19	100%		0%	19	100%		0%
EIA	65	65	100%	0	0%	0	0%	65	100%	5	8%	49	75%	64	98%	1	2%	65	100%	0	0%
<i>Abbott</i>	28	28	100%		0%		0%	28	100%	2	7%	15	54%	28	100%		0%	28	100%		0%
<i>Diamedix</i>	13	13	100%		0%		0%	13	100%	1	8%	12	92%	13	100%		0%	13	100%		0%
<i>Wampole/Zeus</i>	16	16	100%		0%		0%	16	100%		0%	16	100%	15	94%	1	6%	16	100%		0%
<i>Others</i>	8	8	100%		0%		0%	8	100%	2	25%	6	75%	8	100%		0%	8	100%		0%
ELFA	35	35	100%	0	0%	0	0%	35	100%	0	0%	35	100%	35	100%	0	0%	35	100%	0	0%
<i>bioMérieux Vidas</i>	35	35	100%		0%		0%	35	100%		0%	35	100%	35	100%		0%	35	100%		0%
Latex Agglutination	41	41	100%	0	0%	0	0%	41	100%	0	0%	41	100%	41	100%	0	0%	41	100%	0	0%
<i>Becton Dickinson</i>	12	12	100%		0%		0%	12	100%		0%	12	100%	12	100%		0%	12	100%		0%
<i>Fisher</i>	13	13	100%		0%		0%	13	100%		0%	13	100%	13	100%		0%	13	100%		0%
<i>Murex</i>	7	7	100%		0%		0%	7	100%		0%	7	100%	7	100%		0%	7	100%		0%
<i>Wampole/Zeus</i>	7	7	100%		0%		0%	7	100%		0%	7	100%	7	100%		0%	7	100%		0%
<i>Others</i>	2	2	100%		0%		0%	2	100%		0%	2	100%	2	100%		0%	2	100%		0%
Other Methods	7	7	100%	0	0%	0	0%	7	100%	0	0%	7	100%	7	100%	0	0%	7	100%	0	0%
Analyte Total	205	204	100%	1	0%	1	0%	203	99%	9	4%	179	87%	204	100%	1	0%	205	100%	0	0%

* Test sample #13 was not authenticated - A consensus agreement can not be reached among participants, by regulation requirement, the sample cannot be graded (scored) and all participating laboratories get credit for this sample. 19 laboratories across multiple systems reported and equivocal or indeterminate result for sample #13.

Rubella IgG Antibody

Results are summarized for positive test samples 12 and 13. The Mean values \pm S.D. are given where 6 or more laboratories reported quantitative results. Outlier values are omitted.

Method	No.				
<i>Manufacturer</i>	Labs	Unit	Sample 12	Sample 13	
Chemiluminescence					
<i>Bayer</i>	21	IU/ml	38 \pm 2.3	40 \pm 2.5	
<i>Diagnostic Products</i>	16	IU/ml	14 \pm 1.1	9.8 \pm 0.93	
EIA					
<i>Abbott AxSYM</i>	13	IU/ml	13 \pm 1.6	9.2 \pm 1.7	
<i>Wampole</i>	7	Ratio	2.5 \pm 0.52	1.7 \pm 0.21	

Rubella IgM Specific

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	56				57				58				59				60			
		<i>Manufacturer</i>	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R
EIA	13	13	100%	0	0%	13	100%	0	0%	13	100%	0	0%	13	100%	0	0%	0	0%	13	100%
<i>Other</i>	13	13	100%		0%	13	100%		0%	13	100%		0%	13	100%		0%		0%	13	100%
Other Methods	7	7	100%		0%	7	100%		0%	7	100%		0%	7	100%		0%		0%	7	100%
Analyte Total	20	20	100%	0	0%	20	100%	0	0%	20	100%	0	0%	20	100%	0	0%	0	0%	20	100%

Syphilis - Reagin Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	1				2				3				4				5			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
RPR	278	277	100%	1	0%	275	99%	3	1%	277	100%	1	0%	0	0%	278	100%	0	0%	278	100%
<i>ASI</i>	40	40	100%		0%	40	100%		0%	40	100%		0%		0%	40	100%		0%	40	100%
<i>Becton Dickinson</i>	143	142	99%	1	1%	142	99%	1	1%	143	100%		0%		0%	143	100%		0%	143	100%
<i>Fisher</i>	45	45	100%		0%	44	98%	1	2%	44	98%	1	2%		0%	45	100%		0%	45	100%
<i>True Medix</i>	15	15	100%		0%	15	100%		0%	15	100%		0%		0%	15	100%		0%	15	100%
<i>Wampole/Zeus</i>	21	21	100%		0%	20	95%	1	5%	21	100%		0%		0%	21	100%		0%	21	100%
<i>Others</i>	14	14	100%		0%	14	100%		0%	14	100%		0%		0%	14	100%		0%	14	100%
Other Methods	1	1	100%		0%	1	100%		0%	1	100%		0%		0%	1	100%		0%	1	100%
Analyte Total	279	278	100%	1	0%	276	99%	3	1%	278	100%	1	0%	0	0%	279	100%	0	0%	279	100%

Syphilis - Reagin Antibody

RPR Procedures

The number of laboratories that reported titers is listed for positive test samples 4 and 5 for the RPR procedure. Only testing systems with 6 or more laboratories reporting titers are listed in this table.

Method Manufacturer	No. Labs	Sample 4 Titers					Sample 5 Titers					
		1	2	4	8	16	1	2	4	8	16	32
<i>Becton Dickinson</i>	129	8	80	37	3	1		1	40	81	6	
<i>Fisher</i>	44	1	32	9	2			1	23	17	3	
<i>Wampole/ Zeus</i>	21	2	18	1				2	13	6		
<i>ASI</i>	28	1	19	6	2				14	13	1	
<i>True Medix</i>	15	1	9	5				1	5	8		1

Note: The number of labs reporting specific titers may not add up to the total number of labs for that system because some labs are not reporting endpoint titers.

Syphilis - Treponemal Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	1				2				3				4				5			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
EIA	10	10	100%	0	0%	10	100%	0	0%	10	100%	0	0%	0	0%	10	100%	0	0%	10	100%
<i>Trinity Biotech</i>	7	7	100%		0%	7	100%		0%	7	100%		0%		0%	7	100%		0%	7	100%
<i>Other</i>	3	3	100%		0%	3	100%		0%	3	100%		0%		0%	3	100%		0%	3	100%
Gel. Part. Agglut.	33	33	100%	0	0%	33	100%	0	0%	33	100%	0	0%	0	0%	33	100%	0	0%	33	100%
<i>Fujirebio</i>	33	33	100%		0%	33	100%		0%	33	100%		0%		0%	33	100%		0%	33	100%
IFA	28	28	100%	0	0%	28	100%	0	0%	28	100%	0	0%	0	0%	28	100%	0	0%	28	100%
<i>Wampole/Zeus</i>	28	28	100%		0%	28	100%		0%	28	100%		0%		0%	28	100%		0%	28	100%
MHA	10	7	70%	3	30%	10	100%	0	0%	10	100%	0	0%	0	0%	10	100%	0	0%	10	100%
<i>Olympus</i>	10	7	70%	3	30%	10	100%		0%	10	100%		0%		0%	10	100%		0%	10	100%
Other Methods	7	7	100%		0%	7	100%		0%	7	100%		0%		0%	7	100%		0%	7	100%
Analyte Total	88	85	97%	3	3%	88	100%	0	0%	88	100%	0	0%	0	0%	88	100%	0	0%	88	100%

AAT, C'3, and C'4

The Mean mg/dl \pm S.D. is given where 6 or more laboratories reported values. Outlier values are omitted.

Analytes	No.	Sample NO.				
		Labs	76	77	78	79
Alpha-1-Antitrypsin						
Nephelometry/Beckman Coulter IMMAGE	12	< 10	432 \pm 28	308 \pm 19	441 \pm 45	94 \pm 8.8
Nephelometry/Behring Nephelometer	17	< 17	477 \pm 66	436 \pm 53	469 \pm 60	86 \pm 7.1
Nephelometry/ Total	32	< 17	437 \pm 25	380 \pm 77	435 \pm 27	89 \pm 8.5
Turbidimetry/ Total	7	< 36	431 \pm 17	307 \pm 16	430 \pm 19	87 \pm 4.4
Complement C'3						
Nephelometry/Beckman Coulter Array	9	34 \pm 3.4	442 \pm 24	313 \pm 13	440 \pm 15	41 \pm 1.8
Nephelometry/Beckman Coulter IMMAGE	20	35 \pm 1.8	442 \pm 29	313 \pm 17	438 \pm 28	42 \pm 1.9
Nephelometry/Behring Nephelometer	17	33 \pm 2.6	482 \pm 28	347 \pm 22	475 \pm 29	42 \pm 2.0
Turbidimetry/Behring Dimension	6	38 \pm 5.4	463 \pm 40	314 \pm 17	458 \pm 26	44 \pm 2.6
Turbidimetry/Roche Cobas Integra	12	32 \pm 1.2	475 \pm 17	307 \pm 6.7	473 \pm 17	42 \pm 1.1
Nephelometry/ Total	55	34 \pm 2.5	456 \pm 32	325 \pm 25	454 \pm 32	42 \pm 2.2
Turbidimetry/ Total	41	34 \pm 3.8	467 \pm 42	311 \pm 19	463 \pm 38	42 \pm 3.0
Complement C'4						
Nephelometry/Beckman Coulter Array	9	< 16	100 \pm 6.3	68 \pm 3.4	100 \pm 6.2	< 16
Nephelometry/Beckman Coulter IMMAGE	20	< 16	118 \pm 5.6	75 \pm 2.4	117 \pm 8.3	< 16
Nephelometry/Behring BN PROSPEC	9	< 10	98 \pm 6.9	68 \pm 3.5	99 \pm 8.1	< 10
Nephelometry/Behring Nephelometer	14	< 10	101 \pm 9.0	72 \pm 4.3	102 \pm 7.5	< 10
Turbidimetry/Roche Cobas Integra	11	< 6	100 \pm 2.6	65 \pm 1.8	98 \pm 4.0	< 8
Nephelometry/ Total	55	< 16	106 \pm 11	72 \pm 5.1	107 \pm 11	< 16
Turbidimetry/ Total	38	< 18	102 \pm 7.6	64 \pm 4.0	101 \pm 10	< 18

IgA, IgE, IgG, and IgM

The Mean mg/dl (IU/ml for IgE) \pm S.D. is given for IgA, IgE, and IgM and Mean mg/dl \pm 25% is given for IgG where 6 or more laboratories reported values. Outlier values are omitted.

Analytes (Unit)	No. Labs	Sample NO.				
		81	82	83	84	85
Immunoglobulin A (mg/dl)						
Nephelometry/Beckman Coulter Array	12	269 \pm 8.5	589 \pm 28	481 \pm 17	137 \pm 5.4	479 \pm 10
Nephelometry/Beckman Coulter IMMAGE	23	265 \pm 12	609 \pm 28	474 \pm 20	133 \pm 5.9	479 \pm 17
Nephelometry/Behring BN PROSPEC	8	269 \pm 9.9	622 \pm 17	583 \pm 47	155 \pm 9.3	573 \pm 37
Nephelometry/Behring Nephelometer	21	273 \pm 15	619 \pm 34	590 \pm 34	154 \pm 8.1	606 \pm 36
Turbidimetry/Roche Cobas Integra	14	251 \pm 7.9	579 \pm 29	456 \pm 15	115 \pm 3.9	463 \pm 17
Turbidimetry/Roche Hitachi	7	259 \pm 10	584 \pm 20	464 \pm 22	127 \pm 5.0	472 \pm 11
Nephelometry/ Total	68	267 \pm 13	607 \pm 31	525 \pm 64	142 \pm 13	529 \pm 68
Turbidimetry/ Total	46	257 \pm 17	585 \pm 41	453 \pm 25	123 \pm 12	466 \pm 26
Immunoglobulin E (IU/ml)						
Chemiluminescence/Bayer	9	4345 \pm 217	427 \pm 11	672 \pm 65	< 10	663 \pm 53
Chemiluminescence/Diag. Prod. Co.	31	3353 \pm 232	391 \pm 31	620 \pm 48	< 10	646 \pm 64
FEIA/Pharmacia	7	3310 \pm 141	427 \pm 36	649 \pm 63	< 10	669 \pm 70
Nephelometry/Behring	7	3587 \pm 57	431 \pm 8.0	716 \pm 12	< 20	732 \pm 16
Chemiluminescence/ Total	45	3640 \pm 590	402 \pm 38	637 \pm 57	< 10	651 \pm 60
FEIA/ Total	16	3118 \pm 307	429 \pm 28	666 \pm 55	< 10	688 \pm 31
Nephelometry/ Total	13	3585 \pm 105	426 \pm 52	682 \pm 69	< 20	699 \pm 50
Immunoglobulin G (mg/dl)						
Nephelometry/Beckman Coulter Array	11	1662 \pm 79	2400 \pm 133	1857 \pm 98	3430 \pm 241	1868 \pm 109
Nephelometry/Beckman Coulter IMMAGE	23	1717 \pm 64	2436 \pm 105	1916 \pm 88	3531 \pm 136	1933 \pm 75
Nephelometry/Behring BN PROSPEC	8	1788 \pm 47	3000 \pm 107	2064 \pm 115	3836 \pm 214	2046 \pm 80
Nephelometry/Behring Nephelometer	22	1818 \pm 116	2995 \pm 200	2116 \pm 146	3880 \pm 263	2120 \pm 105
Turbidimetry/Roche Cobas Integra	14	1711 \pm 65	2555 \pm 79	1875 \pm 58	3883 \pm 186	1916 \pm 55
Turbidimetry/Roche Hitachi	7	1628 \pm 83	2304 \pm 111	1756 \pm 117	3486 \pm 100	1807 \pm 92
Nephelometry/ Total	68	1742 \pm 103	2679 \pm 343	1986 \pm 162	3683 \pm 290	1999 \pm 148
Turbidimetry/ Total	45	1708 \pm 84	2518 \pm 193	1873 \pm 115	3742 \pm 281	1909 \pm 101
Immunoglobulin M (mg/dl)						
Nephelometry/Beckman Coulter Array	12	103 \pm 4.8	240 \pm 14	297 \pm 14	59 \pm 2.6	292 \pm 11
Nephelometry/Beckman Coulter IMMAGE	22	100 \pm 4.4	215 \pm 12	282 \pm 813	56 \pm 2.1	287 \pm 12
Nephelometry/Behring BN PROSPEC	8	109 \pm 6.3	287 \pm 6.5	356 \pm 15	55 \pm 5.1	361 \pm 8.0
Nephelometry/Behring Nephelometer	21	113 \pm 3.5	311 \pm 12	382 \pm 17	57 \pm 5.8	399 \pm 24
Turbidimetry/Roche Cobas Integra	13	88 \pm 4.1	172 \pm 8.3	262 \pm 5.9	51 \pm 2.8	267 \pm 5.8
Turbidimetry/Roche Hitachi	7	92 \pm 2.2	200 \pm 12	252 \pm 12	51 \pm 1.6	259 \pm 9.0
Nephelometry/ Total	66	106 \pm 8.7	261 \pm 49	326 \pm 51	57 \pm 5.2	332 \pm 56
Turbidimetry/ Total	45	91 \pm 4.7	198 \pm 30	261 \pm 15	51 \pm 4.3	266 \pm 16

Acceptable Response (January 18, 2006 PT Event)
Quantitative Tests Results (Acceptable Range)

Analytes	Sample NO.				
Method/ Manufacture					
Alpha-1-Antitrypsin	76	77	78	79	80
Nephelometry/Beckman	< 10	348 - 516	249 - 367	305 - 578	68 - 121
Nephelometry/Behring	< 17	277 - 677	277 - 595	289 - 648	64 - 108
Nephelometry/ Total	< 17	361 - 511	150 - 610	354 - 515	63 - 115
Turbidimetry/ Total	< 36	379 - 483	258 - 355	373 - 488	73 - 99
Complement C'3	76	77	78	79	80
Nephelometry/Beckman	23 - 44	356 - 527	262 - 363	353 - 524	35 - 48
Nephelometry/Behring	25 - 41	390 - 567	279 - 414	370 - 577	35 - 49
Turbidimetry/Behring	21 - 54	344 - 582	263 - 365	380 - 535	35 - 52
Turbidimetry/Roche	28 - 36	424 - 526	287 - 328	422 - 523	38 - 46
Nephelometry/ Total	26 - 42	359 - 554	250 - 401	356 - 552	35 - 49
Turbidimetry/ Total	22 - 46	341 - 593	253 - 369	348 - 577	33 - 52
Complement C'4	76	77	78	79	80
Nephelometry/Beckman	< 16	80 - 135	57 - 82	81 - 141	< 16
Nephelometry/Behring	< 10	73 - 128	57 - 85	74 - 125	< 10
Turbidimetry/Roche	< 6	92 - 108	59 - 71	86 - 111	< 8
Nephelometry/ Total	< 16	72 - 140	56 - 88	73 - 140	< 16
Turbidimetry/ Total	< 18	79 - 125	52 - 77	69 - 132	< 18
Immunoglobulin A	81	82	83	84	85
Nephelometry/Beckman	243 - 299	503 - 6936	414 - 533	115 - 153	427 - 531
Nephelometry/Behring	229 - 317	516 - 721	441 - 725	127 - 183	460 - 715
Turbidimetry/Roche	226 - 289	492 - 666	397 - 531	103 - 141	410 - 515
Nephelometry/ Total	227 - 308	512 - 702	333 - 716	104 - 180	326 - 732
Turbidimetry/ Total	207 - 308	460 - 710	377 - 529	86 - 162	387 - 545
Immunoglobulin E	81	82	83	84	85
Chemiluminescence/Bayer	3694 - 4997	393 - 462	477 - 868	< 10	505 - 821
Chemiluminescence/Diag.Prod.Co.	2656 - 4051	299 - 483	475 - 766	< 10	455 - 838
FEIA/Pharmacia	2886 - 3735	320 - 534	459 - 838	< 10	458 - 880
Nephelometry/Behring	3416 - 3758	406 - 455	680 - 751	< 20	685 - 780
Chemiluminescence/ Total	1869 - 5411	288 - 517	466 - 808	< 10	471 - 831
FEIA/ Total	2198 - 4039	345 - 513	501 - 831	<10	595 - 781
Nephelometry/ Total	3270 - 3901	271 - 581	475 - 889	<20	550 - 849
Immunoglobulin G	81	82	83	84	85
Nephelometry/Beckman	1246 - 2147	1800 - 3046	1392 - 2396	2572 - 4414	1401 - 2416
Nephelometry/Behring	1341 - 2274	2246 - 3750	1547 - 2645	2877 - 4850	1534 - 2558
Turbidimetry/Roche	1220 - 2140	1728 - 3194	1317 - 2343	2614 - 4855	1355 - 2395
Nephelometry/ Total	1306 - 2177	2009 - 3350	1489 - 2482	2762 - 4605	1499 - 2499
Turbidimetry/ Total	1281 - 2137	1888 - 3147	1404 - 2341	2806 - 4678	1431 - 2387
Immunoglobulin M	81	82	83	84	85
Nephelometry/Beckman	86 - 118	180 - 284	241 - 341	49 - 68	250 - 327
Nephelometry/Behring	91 - 128	267 - 346	311 - 433	39 - 75	328 - 470
Turbidimetry/Roche	76 - 100	147 - 236	215 - 289	42 - 60	231 - 286
Nephelometry/ Total	79 - 133	112 - 410	174 - 478	41 - 73	164 - 500
Turbidimetry/ Total	77 - 106	109 - 287	214 - 307	37 - 64	217 - 314

**Acceptable Response (January 18, 2006 PT Event)
Qualitative / Quantitative Tests Results**

Analytes	Sample NO.				
	1	2	3	4	5
Syphilis - Reagin Ab	N	N	N	R	R
<i>RPR Titer</i>				1 - 8	2 - 16
Syphilis - Treponemal	N	N	N	R	R
	6	7	8	9	10
HBcAb	R	N	N	R	N
HBsAg	R	N	N	R	N
	11	12	13	14	15
CMV	N	R	R	R	N
Rubella Ab	N	R	R*	N	N
	16	17	18	19	20
ASO	N	R	R	N	N
<i>Latex Agglutination as IU/ml</i>		100 - 1600	100 - 1600		
	26	27	28	29	30
Infectious Mono.	N	R	N	N	N
<i>Latex Agglutination Titer</i>		4 - 64			
Rheumatoid Factor	N	R	N	N	N
<i>Latex Agglutination Titer</i>		16 - 512			
<i>Latex Agglutination as IU/ml</i>		160 - 5120			
	31	32	33	34	35
HIV Ab Screening/Confirmation	N	N	N	R	N
	36	37	38	39	40
HTLV 1 Ab	N	R	N	N	N
	41	42	43	44	45
LYME Disease Ab	N	R	R	R	N
LYME Disease Ab WB IgG	N	R	R	R	N
LYME Disease Ab WB IgM	N	R	N	N	N
	46	47	48	49	50
ANA	N	N	N	R	R
<i>EIA/ IFA Titer</i>				160 - 5120	40 - 640
	56	57	58	59	60
Rubella IgM	N	N	N	N	R
	61	62	63	64	65
HIV p24 Ag	N	R	N	N	N
	66	67	68	69	70
HBeAg	R	R	N	N	N
	71	72	73	74	75
Hepatitis C Ab	N	N	N	N	R

Note: R = Reactive/ Positive; I = Indeterminate; N = Non-Reactive/ Negative

* Test sample was not authenticated - because a consensus of 80% agreement was not reached. All participating laboratories received credit for this sample.