

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

# **Proficiency Testing Program**

**14-Jan-09**

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



**Proficiency Test Event  
14-Jan-09**

**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 14, 2009 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 10, results were graded considering results given for the method used. Target values and acceptable ranges were determined as indicated in Page 4.

#### **Grading Criteria:**

- ▶ For each separate analyte where results were reported, qualitative or quantitative, twenty points were deducted for each incorrect answer. For Syphilis-Reagin (RPR), where both qualitative and quantitative results are reported under one analyte, ten points were deducted for each incorrect quantitative or qualitative result. Titering of positive Syphilis-Reagin samples is mandatory for all Diagnostic Services laboratories who perform this test, unless given an exemption. Failure to titer the positive samples to the endpoint will result in failure for the Syphilis-Reagin analyte.
- ▶ 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 performance.
- ▶ 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 10 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 ten or more laboratories reported data.

For quantitative tests, values reported variously as mg/dl, IU/ml, etc. are given as the Mean  $\pm$  S.D. when ten 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	Positive or negative
Antinuclear Antibody Quantitative (IFA systems only)	Target value $\pm$ 2 dilutions
Antistreptolysin O	Positive or negative
Antistreptolysin O Quantitative	Target value $\pm$ 2 dilutions or Target value $\pm$ 3 S.D.
Complement C'3, C'4	Target value $\pm$ 3 S.D.
Cytomegalovirus Antibody	Positive or negative
Hepatitis (HbsAg, anti-HBc, HBeAg, and HCAb)	Reactive or nonreactive
HIV 1 Ab, Ag	Reactive or nonreactive
HTLV 1 Ab	Positive or negative
Lyme Disease Ab, WB IgG, IgM	Positive or negative
Immunoglobulin A, E, M	Target value $\pm$ 3 S.D.
Immunoglobulin G	Target value $\pm$ 25 %
Infectious Mononucleosis	Positive or negative
Rheumatoid Factor	Positive or negative
Rheumatoid Factor Quantitative	Target value $\pm$ 2 dilutions or Target value $\pm$ 3 S.D.
Rubella Ab, IgM	Positive or negative or Immune or nonimmune
Rubella Ab Quantitative	Target value $\pm$ 3 S.D.
Syphilis Reagin Antibody	Reactive or nonreactive Target value $\pm$ 1 dilution
Syphilis Treponemal Antibody	Reactive or nonreactive

## Antinuclear Antibody

Participant Results/ Sample Number																						
R = Reactive/ Positive; N = Non-Reactive/ Negative																						
Method	No. Labs	46 N				47 N				48 R				49 N				50 R				
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	
<b>EIA</b>	<b>38</b>	<b>38</b>	<b>100%</b>		<b>0%</b>	<b>38</b>	<b>100%</b>		<b>0%</b>		<b>0%</b>	<b>38</b>	<b>100%</b>	<b>38</b>	<b>100%</b>		<b>0%</b>		<b>0%</b>	<b>38</b>	<b>100%</b>	
<b>IFA</b>	<b>66</b>	<b>65</b>	<b>98%</b>	<b>1</b>	<b>2%</b>	<b>66</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>2%</b>	<b>65</b>	<b>98%</b>	<b>66</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>2%</b>	<b>65</b>	<b>98%</b>	
<i>Bio-Rad</i>	19	19	100%		0%	19	100%		0%		0%	19	100%	19	100%		0%		0%	19	100%	
<i>Wampole/Zeus</i>	18	17	94%	1	6%	18	100%		0%	1	6%	17	94%	18	100%		0%	1	6%	17	94%	
<i>Others</i>	29	29	100%		0%	29	100%		0%		0%	29	100%	29	100%		0%		0%	29	100%	
<b>Multiplexed Bead</b>	18	18	100%		0%	18	100%		0%		0%	18	100%	18	100%		0%	1	6%	17	94%	
<b>Other Methods <sup>1</sup></b>	4	4	100%		0%	4	100%		0%		0%	3	75%	4	100%		0%		0%	4	100%	
<b>Analyte Total</b>	<b>126</b>	<b>125</b>	<b>99%</b>	<b>1</b>	<b>1%</b>	<b>126</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>1%</b>	<b>124</b>	<b>98%</b>	<b>126</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>2</b>	<b>2%</b>	<b>124</b>	<b>98%</b>	

<sup>1</sup> One laboratory reported an equivocal result on sample #48.

**Antinuclear Antibody Quantitative (IFA systems only)**

The number of laboratories that reported titers is listed for positive test samples 48 and 50. Only testing systems with 10 or more laboratories reporting titers are listed in this table.

Method	No. Labs	Sample 48 Titer								Sample 50 Titer							
		40	80	160	320	640	1280	2560	5120	40	80	160	320	640	1280	2560	5120
<b>IFA</b>	<b>Total</b>	96	1	7	10	33	11	8	1	2	17	31	21	12	6		
	<i>Bio-Rad</i>	25		5	7	8	3			2	7	12	3	1			
	<i>Immuno</i>	14		1	1	2	1	2				2	3	7			
	<i>The Binding site</i>	16			1	8	2	1	1		1	4	7		2		
	<i>Wampole/ Zeus</i>	23	1	1	1	6	2	4									

**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.

**Antinuclear Antibody Staining Patterns**

Staining Pattern	Sample 48		Sample 50	
	#	%	#	%
<i>Homogenous</i>	1	1%	95	99%
<i>Nucleolar</i>				
<i>Peripheral</i>				
<i>Speckled</i>	94	99%	1	1%

The reporting of a staining pattern here is for informational purposes only and is not used for grading.

## Antistreptolysin O

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	16 N				17 R				18 N				19 R				20 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>Latex Agglutination</b>	<b>71</b>	<b>71</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>71</b>	<b>100%</b>	<b>71</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>71</b>	<b>100%</b>	<b>71</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Dade Behring</i>	17	17	100%		0%		0%	17	100%	17	100%		0%		0%	17	100%	17	100%		0%
<i>Fisher</i>	18	18	100%		0%		0%	18	100%	18	100%		0%		0%	18	100%	18	100%		0%
<i>Remel</i>	15	15	100%		0%		0%	15	100%	15	100%		0%		0%	15	100%	15	100%		0%
<i>Others</i>	21	21	100%		0%		0%	21	100%	21	100%		0%		0%	21	100%	21	100%		0%
<b>Hemagglutination</b>	<b>11</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>11</b>	<b>100%</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>9%</b>	<b>10</b>	<b>91%</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Wampole/Zeus</i>	11	11	100%		0%		0%	11	100%	11	100%		0%	1	9%	10	91%	11	100%		0%
<b>Turbidimetry</b>	<b>10</b>	<b>10</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>10</b>	<b>100%</b>	<b>10</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>10</b>	<b>100%</b>	<b>10</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Others</i>	10	10	100%		0%		0%	10	100%	10	100%		0%		0%	10	100%	10	100%		0%
<b>Other Methods</b>	<b>7</b>	<b>7</b>	<b>100%</b>		<b>0%</b>		<b>0%</b>	<b>7</b>	<b>100%</b>	<b>7</b>	<b>100%</b>		<b>0%</b>		<b>0%</b>	<b>7</b>	<b>100%</b>	<b>7</b>	<b>100%</b>		<b>0%</b>
<b>Analyte Total</b>	<b>99</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>99</b>	<b>100%</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>1%</b>	<b>98</b>	<b>99%</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>

## Antistreptolysin O Quantitative Latex Agglutination Procedures

The number of laboratories that reported titers is listed for positive test samples 17 and 19. Only testing systems with 10 or more laboratories reporting titers are listed in this table.

Method	No.	Sample 17						Sample 19					
		Titer						Titer					
Manufacturer	Labs	200	400	800	1600	3200	6400	200	400	800	1600	3200	6400
<b>Latex Total</b>	55	1	18	19	2			2	30	7	1		
<i>Dade Behring</i>	15	1	5	4					9	1			
<i>Fisher</i>	15		6	6	1			1	9	3			
<i>Remel</i>	13		6	4					8	2			

**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 Quantitative**  
**Nephelometry & Turbidimetry Procedures**

Results are summarized for positive test samples 17 and 19. The Mean values  $\pm$  S.D. are given where 10 or more laboratories reported quantitative results. Outlier values are omitted.

<b>Method</b>	<b>Manufacturer</b>	<b>No. Labs</b>	<b>Unit</b>	<b>Sample 17</b>	<b>Sample 19</b>
<b>Nephelometry</b>	<b>Total</b>	24	IU/ml	652 $\pm$ 152	522 $\pm$ 151
<b>Turbidimetry</b>	<b>Total</b>	29	IU/ml	757 $\pm$ 133	646 $\pm$ 118
	<i>Roche Diagnostics Cobas</i>	18	IU/ml	730 $\pm$ 45	706 $\pm$ 32

## Cytomegalovirus Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	11 N				12 N				13 R				14 R				15 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>EIA</b>	<b>38</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>38</b>	<b>100%</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Wampole /Zeus</i>	17	17	100%		0%	17	100%		0%		0%	17	100%		0%	17	100%	17	100%		0%
<i>Others</i>	21	21	100%		0%	21	100%		0%		0%	21	100%		0%	21	100%	21	100%		0%
<b>ELFA</b>	<b>20</b>	<b>20</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>20</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>20</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>20</b>	<b>100%</b>	<b>20</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>bioMérieux Vidas</i>	20	20	100%		0%	20	100%		0%		0%	20	100%		0%	20	100%	20	100%		0%
<b>Chemiluminescence</b>	<b>14</b>	<b>14</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>14</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>14</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>14</b>	<b>100%</b>	<b>14</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Diagnostic Products</i>	12	12	100%		0%	12	100%		0%		0%	12	100%		0%	12	100%	12	100%		0%
<i>Others</i>	2	2	100%		0%	2	100%		0%		0%	2	100%		0%	2	100%	2	100%		0%
<b>Hemagglutination</b>	<b>11</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>11</b>	<b>100%</b>	<b>11</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Olympus</i>	11	11	100%		0%	11	100%		0%		0%	11	100%		0%	11	100%	11	100%		0%
<b>Other Methods</b>	<b>8</b>	<b>8</b>	<b>100%</b>		<b>0%</b>	<b>8</b>	<b>100%</b>		<b>0%</b>		<b>0%</b>	<b>8</b>	<b>100%</b>		<b>0%</b>	<b>8</b>	<b>100%</b>	<b>8</b>	<b>100%</b>		<b>0%</b>
<b>Analyte Total</b>	<b>91</b>	<b>91</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>91</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>91</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>91</b>	<b>100%</b>	<b>91</b>	<b>100%</b>	<b>0</b>	<b>0%</b>

# Hepatitis B Core Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	6 R				7 R				8 N				9 N				10 N			
		<i>Manufacturer</i>	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R
<b>Chemiluminescence</b>	<b>102</b>	<b>0</b>	<b>0%</b>	<b>102</b>	<b>100%</b>	<b>1</b>	<b>1%</b>	<b>101</b>	<b>99%</b>	<b>102</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>102</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>102</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Abbott</i>	14		0%	14	100%		0%	14	100%	14	100%		0%	14	100%		0%	14	100%		0%
<i>Bayer</i>	38		0%	38	100%		0%	38	100%	38	100%		0%	38	100%		0%	38	100%		0%
<i>Diagnostic Products</i>	19		0%	19	100%	1	5%	18	95%	19	100%		0%	19	100%		0%	19	100%		0%
<i>Ortho</i>	31		0%	31	100%		0%	31	100%	31	100%		0%	31	100%		0%	31	100%		0%
<b>EIA</b>	<b>45</b>	<b>0</b>	<b>0%</b>	<b>45</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>45</b>	<b>100%</b>	<b>45</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>45</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>45</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Abbott AxSYM<sup>1</sup></i>	22		0%	22	100%		0%	22	100%	22	100%		0%	22	100%		0%	22	100%		0%
<i>DiaSorin</i>	10		0%	10	100%		0%	10	100%	10	100%		0%	10	100%		0%	10	100%		0%
<i>Ortho</i>	10		0%	10	100%		0%	10	100%	10	100%		0%	10	100%		0%	10	100%		0%
<i>Other</i>	3		0%	3	100%		0%	3	100%	3	100%		0%	3	100%		0%	3	100%		0%
<b>Analyte Total</b>	<b>147</b>	<b>0</b>	<b>0%</b>	<b>147</b>	<b>100%</b>	<b>1</b>	<b>1%</b>	<b>146</b>	<b>99%</b>	<b>147</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>147</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>147</b>	<b>100%</b>	<b>0</b>	<b>0%</b>

## Hepatitis B Surface Antigen

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	6 R				7 N				8 R				9 N				10 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>Chemiluminescence</b>	<b>133</b>	<b>0</b>	<b>0%</b>	<b>133</b>	<b>100%</b>	<b>133</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>133</b>	<b>100%</b>	<b>132</b>	<b>99%</b>	<b>1</b>	<b>1%</b>	<b>132</b>	<b>99%</b>	<b>1</b>	<b>1%</b>
<i>Abbott</i>	14		0%	14	100%	14	100%		0%		0%	14	100%	14	100%		0%	14	100%		0%
<i>Bayer</i>	50		0%	50	100%	50	100%		0%		0%	50	100%	49	98%	1	2%	49	98%	1	2%
<i>Diagnostic Products</i>	17		0%	17	100%	17	100%		0%		0%	17	100%	17	100%		0%	17	100%		0%
<i>Ortho</i>	41		0%	41	100%	41	100%		0%		0%	41	100%	41	100%		0%	41	100%		0%
<i>Roche</i>	11		0%	11	100%	11	100%		0%		0%	11	100%	11	100%		0%	11	100%		0%
<b>EIA</b>	<b>54</b>	<b>0</b>	<b>0%</b>	<b>53</b>	<b>98%</b>	<b>52</b>	<b>96%</b>	<b>2</b>	<b>4%</b>	<b>1</b>	<b>2%</b>	<b>52</b>	<b>96%</b>	<b>54</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>54</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Abbott AxSYM</i>	28		0%	28	100%	27	96%	1	4%		0%	28	100%	28	100%		0%	28	100%		0%
<i>Bio-Rad</i> <sup>1</sup>	17		0%	16	94%	17	100%		0%		0%	16	94%	17	100%		0%	17	100%		0%
<i>Other</i>	9		0%	9	100%	8	89%	1	11%	1	11%	8	89%	9	100%		0%	9	100%		0%
<b>Confirmation</b>	<b>120</b>	<b>1</b>	<b>1%</b>	<b>119</b>	<b>99%</b>	<b>119</b>	<b>99%</b>	<b>1</b>	<b>1%</b>	<b>2</b>	<b>2%</b>	<b>118</b>	<b>98%</b>	<b>120</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>119</b>	<b>99%</b>	<b>1</b>	<b>1%</b>
<i>Abbott AxSYM</i>	12		0%	12	100%	11	92%	1	8%		0%	12	100%	12	100%		0%	12	100%		0%
<i>Bayer/Siemens</i>	36	1	3%	35	97%	36	100%		0%	1	3%	35	97%	36	100%		0%	35	97%	1	3%
<i>Diagnostic Products</i>	10		0%	10	100%	10	100%		0%		0%	10	100%	10	100%		0%	10	100%		0%
<i>Ortho</i>	30		0%	30	100%	30	100%		0%	1	3%	29	97%	30	100%		0%	30	100%		0%
<i>Other</i>	32		0%	32	100%	32	100%		0%		0%	32	100%	32	100%		0%	32	100%		0%
<b>Other Methods</b>	<b>5</b>		0%	<b>5</b>	<b>100%</b>	<b>5</b>	<b>100%</b>		0%		0%	<b>5</b>	<b>100%</b>	<b>5</b>	<b>100%</b>		0%	<b>5</b>	<b>100%</b>		0%
<b>Analyte Total</b>	<b>312</b>	<b>1</b>	<b>0%</b>	<b>310</b>	<b>99%</b>	<b>309</b>	<b>99%</b>	<b>3</b>	<b>1%</b>	<b>3</b>	<b>1%</b>	<b>308</b>	<b>99%</b>	<b>311</b>	<b>100%</b>	<b>1</b>	<b>0%</b>	<b>310</b>	<b>99%</b>	<b>2</b>	<b>1%</b>

<sup>1</sup> One laboratory reported "invalid" as a result for samples #6 and #8.

**Note:** If you do not have enough volume to complete testing, please call before the replacement deadline. If you call too late to have additional sample volume shipped and your reported results are different than the consensus results, your result will be marked incorrect.

## Hepatitis Be Antigen

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	66 N				67 R				68 N				69 R				70 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>EIA</b>	27	27	100%	0	0%	0	0%	27	100%	27	100%	0	0%	0	0%	27	100%	27	100%	0	0%
<i>DiaSorin</i>	26	26	100%		0%		0%	26	100%	26	100%		0%		0%	26	100%	26	100%		0%
<i>Other</i>	1	1	100%		0%		0%	1	100%	1	100%		0%		0%	1	100%	1	100%		0%
<b>Other Methods <sup>1</sup></b>	4	4	100%		0%		0%	4	100%	3	75%		0%	1	25%	3	75%	3	75%	1	25%
<b>Analyte Total</b>	31	31	100%	0	0%	0	0%	31	100%	30	97%	0	0%	1	3%	30	97%	30	97%	1	3%

<sup>1</sup> One laboratory reported an equivocal result on sample #68.

## Hepatitis C Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	71 R				72 N				73 N				74 R				75 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>Chemiluminescence</b>	98	1	1%	97	99%	98	100%	0	0%	98	100%	0	0%	0	0%	98	100%	98	100%	0	0%
<i>Bayer</i>	50	1	2%	49	98%	50	100%		0%	50	100%		0%		0%	50	100%	50	100%		0%
<i>Ortho</i>	41		0%	41	100%	41	100%		0%	41	100%		0%		0%	41	100%	41	100%		0%
<i>Other</i>	7		0%	7	100%	7	100%		0%	7	100%		0%		0%	7	100%	7	100%		0%
<b>EIA</b>	63	0	0%	63	100%	63	100%	0	0%	63	100%	0	0%	0	0%	63	100%	63	100%	0	0%
<i>Abbott</i>	40		0%	40	100%	40	100%		0%	40	100%		0%		0%	40	100%	40	100%		0%
<i>Ortho</i>	23		0%	23	100%	23	100%		0%	23	100%		0%		0%	23	100%	23	100%		0%
<b>Confirmation</b>	27	0	0%	27	100%	27	100%	0	0%	27	100%	0	0%	0	0%	27	100%	27	100%	0	0%
<i>Chiron</i>	21		0%	21	100%	21	100%		0%	21	100%		0%		0%	21	100%	21	100%		0%
<i>Other</i>	6		0%	6	100%	6	100%		0%	6	100%		0%		0%	6	100%	6	100%		0%
<b>Other Methods</b>	9		0%	9	100%	9	100%		0%	9	100%		0%		0%	9	100%	9	100%		0%
<b>Analyte Total</b>	197	1	1%	196	99%	197	100%	0	0%	197	100%	0	0%	0	0%	197	100%	197	100%	0	0%

## HIV Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	31 N				32 R				33 R				34 N				35 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>Chemiluminescence</b>	<b>35</b>	<b>35</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>35</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>35</b>	<b>100%</b>	<b>35</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>35</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Bayer</i>	24	24	100%		0%		0%	24	100%		0%	24	100%	24	100%		0%	24	100%		0%
<i>Ortho</i>	11	11	100%		0%		0%	11	100%		0%	11	100%	11	100%		0%	11	100%		0%
<b>EIA</b>	<b>94</b>	<b>94</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>94</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>94</b>	<b>100%</b>	<b>94</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>94</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Abbott</i>	40	40	100%		0%		0%	40	100%		0%	40	100%	40	100%		0%	40	100%		0%
<i>Bio-Rad</i>	54	54	100%		0%		0%	54	100%		0%	54	100%	54	100%		0%	54	100%		0%
<b>Rapid EIA</b>	<b>99</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>99</b>	<b>100%</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>99</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Orasure</i>	99	99	100%		0%		0%	99	100%		0%	99	100%	99	100%		0%	99	100%		0%
<b>Rapid Immunoassay</b>	<b>56</b>	<b>56</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>56</b>	<b>100%</b>	<b>4</b>	<b>7%</b>	<b>52</b>	<b>93%</b>	<b>55</b>	<b>98%</b>	<b>1</b>	<b>2%</b>	<b>56</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Inverness</i>	10	10	100%		0%		0%	10	100%		0%	10	100%	10	100%		0%	10	100%		0%
<i>Medmira</i>	15	15	100%		0%		0%	15	100%	4	27%	11	73%	14	93%	1	7%	15	100%		0%
<i>Trinity</i>	27	27	100%		0%		0%	27	100%		0%	27	100%	27	100%		0%	27	100%		0%
<i>Other</i>	4	4	100%		0%		0%	4	100%		0%	4	100%	4	100%		0%	4	100%		0%
<b>Western Blot</b>	<b>42</b>	<b>42</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>42</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>42</b>	<b>100%</b>	<b>42</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>42</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Bio-Rad</i>	40	40	100%		0%		0%	40	100%		0%	40	100%	40	100%		0%	40	100%		0%
<i>Others</i>	2	2	100%		0%		0%	2	100%		0%	2	100%	2	100%		0%	2	100%		0%
<b>Other Methods</b>	<b>6</b>	<b>6</b>	<b>100%</b>		<b>0%</b>		<b>0%</b>	<b>6</b>	<b>100%</b>		<b>0%</b>	<b>6</b>	<b>100%</b>	<b>6</b>	<b>100%</b>		<b>0%</b>	<b>6</b>	<b>100%</b>		<b>0%</b>
<b>Analyte Total</b>	<b>332</b>	<b>332</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>332</b>	<b>100%</b>	<b>4</b>	<b>1%</b>	<b>328</b>	<b>99%</b>	<b>331</b>	<b>100%</b>	<b>1</b>	<b>0%</b>	<b>332</b>	<b>100%</b>	<b>0</b>	<b>0%</b>

## HTLV Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	36 R				37 N				38 N				39 R				40 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>EIA</b>	<b>25</b>	<b>0</b>	<b>0%</b>	<b>25</b>	<b>100%</b>	<b>25</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>25</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>25</b>	<b>100%</b>	<b>25</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Abbott</i>	24		0%	24	100%	24	100%		0%	24	100%		0%		0%	24	100%	24	100%		0%
<i>Other</i>	1		0%	1	100%	1	100%		0%	1	100%		0%		0%	1	100%	1	100%		0%
<b>Abbott Prism</b>	<b>13</b>		0%	13	100%	13	100%		0%	13	100%		0%		0%	13	100%	13	100%		0%
<b>Analyte Total</b>	<b>38</b>	<b>0</b>	<b>0%</b>	<b>38</b>	<b>100%</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>38</b>	<b>100%</b>	<b>38</b>	<b>100%</b>	<b>0</b>	<b>0%</b>

## Infectious Mononucleosis

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method <i>Manufacturer</i>	No. Labs	26 R				27 N				28 N				29 N				30 R			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>CICA</b>	<b>18</b>	<b>0</b>	<b>0%</b>	<b>18</b>	<b>100%</b>	<b>18</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>18</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>18</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>18</b>	<b>100%</b>
<i>Others</i>	18		0%	18	100%	18	100%		0%	18	100%		0%	18	100%		0%		0%	18	100%
<b>Hemagglutination</b>	<b>46</b>	<b>0</b>	<b>0%</b>	<b>46</b>	<b>100%</b>	<b>43</b>	<b>93%</b>	<b>3</b>	<b>7%</b>	<b>43</b>	<b>93%</b>	<b>3</b>	<b>7%</b>	<b>43</b>	<b>93%</b>	<b>3</b>	<b>7%</b>	<b>0</b>	<b>0%</b>	<b>46</b>	<b>100%</b>
<i>Fisher</i>	17		0%	17	100%	14	82%	3	18%	14	82%	3	18%	14	82%	3	18%		0%	17	100%
<i>Wampole/Zeus</i>	20		0%	20	100%	20	100%		0%	20	100%		0%	20	100%		0%		0%	20	100%
<i>Others</i>	9		0%	9	100%	9	100%		0%	9	100%		0%	9	100%		0%		0%	9	100%
<b>Latex Agglutination</b>	<b>139</b>	<b>0</b>	<b>0%</b>	<b>139</b>	<b>100%</b>	<b>139</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>139</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>139</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>139</b>	<b>100%</b>
<i>Fisher</i>	44		0%	44	100%	44	100%		0%	44	100%		0%	44	100%		0%		0%	44	100%
<i>Remel</i>	25		0%	25	100%	25	100%		0%	25	100%		0%	25	100%		0%		0%	25	100%
<i>Wampole/Zeus</i>	51		0%	51	100%	51	100%		0%	51	100%		0%	51	100%		0%		0%	51	100%
<i>Others</i>	19		0%	19	100%	19	100%		0%	19	100%		0%	19	100%		0%		0%	19	100%
<b>Solid Phase IA</b>	<b>62</b>	<b>0</b>	<b>0%</b>	<b>62</b>	<b>100%</b>	<b>62</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>62</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>62</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>62</b>	<b>100%</b>
<i>Inverness</i>	30		0%	30	100%	30	100%		0%	30	100%		0%	30	100%		0%		0%	30	100%
<i>Seradyn</i>	26		0%	26	100%	26	100%		0%	26	100%		0%	26	100%		0%		0%	26	100%
<i>Others</i>	6		0%	6	100%	6	100%		0%	6	100%		0%	6	100%		0%		0%	6	100%
<b>Other Methods</b>	<b>3</b>		0%	<b>3</b>	<b>100%</b>	<b>3</b>	<b>100%</b>		0%	<b>3</b>	<b>100%</b>		0%	<b>3</b>	<b>100%</b>		0%		0%	<b>3</b>	<b>100%</b>
<b>Analyte Total</b>	<b>268</b>	<b>0</b>	<b>0%</b>	<b>268</b>	<b>100%</b>	<b>265</b>	<b>99%</b>	<b>3</b>	<b>1%</b>	<b>265</b>	<b>99%</b>	<b>3</b>	<b>1%</b>	<b>265</b>	<b>99%</b>	<b>3</b>	<b>1%</b>	<b>0</b>	<b>0%</b>	<b>268</b>	<b>100%</b>

## Lyme Disease Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	41 N				42 N				43 R				44 R				45 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>EIA</b>	<b>58</b>	<b>58</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>58</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>58</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>58</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Immunitics</i>	15	15	100%		0%	15	100%		0%		0%	15	100%		0%	15	100%	15	100%		0%
<i>Wampole /Zeus</i>	31	31	100%		0%	31	100%		0%		0%	31	100%		0%	31	100%	31	100%		0%
<i>Others</i>	12	12	100%		0%	12	100%		0%		0%	12	100%		0%	12	100%	12	100%		0%
<b>ELFA</b>	<b>29</b>	<b>29</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>29</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>29</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>29</b>	<b>100%</b>	<b>29</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>bioMérieux</i>	29	29	100%		0%	29	100%		0%		0%	29	100%		0%	29	100%	29	100%		0%
<b>Other Methods</b>	6	6	100%		0%	6	100%		0%		0%	6	100%		0%	6	100%	6	100%		0%
<b>Analyte Total</b>	<b>93</b>	<b>93</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>93</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>93</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>93</b>	<b>100%</b>	<b>93</b>	<b>100%</b>	<b>0</b>	<b>0%</b>

### Lyme Western Blot IgG

		Participant Results/ Sample Number																																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative; E = Equivocal/ Indeterminate																																			
Method	No. Labs	41 N						42 N						43 R						44 R						45 N											
		N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%						
Western Blot - IgG	27	27	100%	0	0%	0	0%	27	100%	0	0%	0	0%	0	0%	0	0%	27	100%	0	0%	0	0%	27	100%	27	100%	0	0%	0	0%	0	0%	0	0%	0	0%
<i>MarDx</i>	24	24	100%		0%		0%	24	100%		0%		0%		0%		0%	24	100%		0%		0%	24	100%	24	100%		0%		0%		0%		0%		0%
<i>Other</i>	3	3	100%		0%		0%	3	100%		0%		0%		0%		0%	3	100%		0%		0%	3	100%	3	100%		0%		0%		0%		0%		0%
Other Methods	3	3	100%		0%		0%	3	100%		0%		0%		0%		0%	3	100%		0%		0%	3	100%	3	100%		0%		0%		0%		0%		0%
Analyte Total	30	30	100%	0	0%	0	0%	30	100%	0	0%	0	0%	0	0%	0	0%	30	100%	0	0%	0	0%	30	100%	30	100%	0	0%	0	0%	0	0%	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 N						42 N						43 R *						44 R *						45 N											
		N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%	N	%	E	%	R	%						
Western Blot - IgM	27	27	100%	0	0%	0	0%	27	100%	0	0%	0	0%	11	41%	2	7%	14	52%	20	74%	4	15%	3	11%	27	100%	0	0%	0	0%	0	0%	0	0%	0	0%
<i>MarDx</i>	24	24	100%		0%		0%	24	100%		0%		0%	10	42%	2	8%	12	50%	18	75%	4	17%	2	8%	24	100%		0%		0%		0%		0%		0%
<i>Other</i>	3	3	100%		0%		0%	3	100%		0%		0%	1	33%		0%	2	67%	2	67%		0%	1	33%	3	100%		0%		0%		0%		0%		0%
Other Methods	2	2	100%		0%		0%	2	100%		0%		0%		0%		0%	2	100%		0%		0%	2	100%	2	100%		0%		0%		0%		0%		0%
Analyte Total	29	29	100%	0	0%	0	0%	29	100%	0	0%	0	0%	11	38%	2	7%	16	55%	20	69%	4	14%	5	17%	29	100%	0	0%	0	0%	0	0%	0	0%	0	0%

\* Samples #43 and 44 are not authenticated, the expected result is positive. When a consensus agreement cannot be reached among participants, by regulation requirements, the sample cannot be graded (scored) and all participating laboratories get credit for this sample.

## Rheumatoid Factor

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	26 R				27 N				28 N				29 N				30 R			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>Latex Agglutination</b>	<b>103</b>	<b>0</b>	<b>0%</b>	<b>103</b>	<b>100%</b>	<b>103</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>102</b>	<b>99%</b>	<b>1</b>	<b>1%</b>	<b>103</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>103</b>	<b>100%</b>
<i>Becton Dickinson</i>	19		0%	19	100%	19	100%		0%	19	100%		0%	19	100%		0%		0%	19	100%
<i>Fisher</i>	39		0%	39	100%	39	100%		0%	39	100%		0%	39	100%		0%		0%	39	100%
<i>Wampole/Zeus</i>	12		0%	12	100%	12	100%		0%	11	92%	1	8%	12	100%		0%		0%	12	100%
<i>Others</i>	33		0%	33	100%	33	100%		0%	33	100%		0%	33	100%		0%		0%	33	100%
<b>Nephelometry</b>	<b>15</b>	<b>0</b>	<b>0%</b>	<b>15</b>	<b>100%</b>	<b>15</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>14</b>	<b>93%</b>	<b>1</b>	<b>7%</b>	<b>15</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>15</b>	<b>100%</b>
<i>Others</i>	15		0%	15	100%	15	100%		0%	14	93%	1	7%	15	100%		0%		0%	15	100%
<b>Turbidimetry</b>	<b>19</b>	<b>0</b>	<b>0%</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>19</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>19</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>19</b>	<b>100%</b>
<i>Others</i>	19		0%	19	100%	19	100%		0%	19	100%		0%	19	100%		0%		0%	19	100%
Other Methods	9		0%	9	100%	9	100%		0%	9	100%		0%	9	100%		0%		0%	9	100%
<b>Analyte Total</b>	<b>146</b>	<b>0</b>	<b>0%</b>	<b>146</b>	<b>100%</b>	<b>146</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>144</b>	<b>99%</b>	<b>2</b>	<b>1%</b>	<b>146</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>146</b>	<b>100%</b>

### Rheumatoid Factor Quantitative Latex Agglutination Procedure

The number of laboratories that reported titers is listed for positive test samples 26 and 30. The dilution schemes laboratories used are represented by the letter A and B, testing systems with 10 or more laboratories reporting titers are listed in this table.

<i>Manufacturer</i>	<b>No. Labs</b>	<b>A B</b>	<b>Sample 26 Titer</b>								<b>Sample 30 Titer</b>							
			<b>10 1</b>	<b>20 2</b>	<b>40 4</b>	<b>80 8</b>	<b>160 16</b>	<b>320 32</b>	<b>640 64</b>	<b>1280 128</b>	<b>10 1</b>	<b>20 2</b>	<b>40 4</b>	<b>80 8</b>	<b>160 16</b>	<b>320 32</b>	<b>640 64</b>	<b>1280 128</b>
<b>Total</b>	74	A B	1		5	12	15	11	1	1		1		8	9	14	11	2
				1			4	7	7	1	1			1				1
<i>Becton Dickenson</i>	15	A B			4	7	2	1					6	6	2			
<i>Fisher</i>	28	A B				1	10	5						1	9	6		
						2	5	4						2	4	5		

**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 Quantitative

### Nephelometry & Turbidimetry Procedures

Results are summarized for positive test samples 26 and 30. The Mean values  $\pm$  S.D. are given where 10 or more laboratories reported quantitative results. Outlier values are omitted.

Method <i>Manufacturer</i>	No. Labs	Unit	Sample 26	Sample 30
<b>Nephelometry</b> <b>Total</b>	28	IU/ml	244 $\pm$ 41	223 $\pm$ 50
<i>Beckman Coulter IMMAGE</i>	13	IU/ml	282 $\pm$ 17	275 $\pm$ 13
<i>Dade Behring Nephelometer</i>	15	IU/ml	212 $\pm$ 24	181 $\pm$ 19
<b>Turbidimetry</b> <b>Total(not Roche)</b>	26	IU/ml	281 $\pm$ 70	278 $\pm$ 58
<i>Bayer Advia (all models)</i>	10	IU/ml	220 $\pm$ 17	236 $\pm$ 24
<b>Turbidimetry</b> <b>Total(Roche)</b>	32	IU/ml	120 $\pm$ 4.9	116 $\pm$ 6.9
<i>Roche Diag. Cobas</i>	17	IU/ml	121 $\pm$ 4.8	116 $\pm$ 8.9
<i>Roche Hitachi Modular (all models)</i>	10	IU/ml	122 $\pm$ 5.3	117 $\pm$ 2.8

## Rubella Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	11 N				12 N				13 R				14 R				15 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>Chemiluminescence</b>	<b>57</b>	<b>57</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>57</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>57</b>	<b>100%</b>	<b>1</b>	<b>2%</b>	<b>53</b>	<b>93%</b>	<b>57</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Bayer</i>	27	27	100%		0%	27	100%		0%		0%	27	100%		0%	27	100%	27	100%		0%
<i>Beckman</i> <sup>1</sup>	13	13	100%		0%	13	100%		0%		0%	13	100%		0%	11	85%	13	100%		0%
<i>Diagnostic Products</i> <sup>2</sup>	12	12	100%		0%	12	100%		0%		0%	12	100%	1	8%	10	83%	12	100%		0%
<i>Others</i>	5	5	100%		0%	5	100%		0%		0%	5	100%		0%	5	100%	5	100%		0%
<b>EIA</b>	<b>54</b>	<b>54</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>54</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>54</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>54</b>	<b>100%</b>	<b>54</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Abbott</i>	19	19	100%		0%	19	100%		0%		0%	19	100%		0%	19	100%	19	100%		0%
<i>Wampole/Zeus</i>	15	15	100%		0%	15	100%		0%		0%	15	100%		0%	15	100%	15	100%		0%
<i>Others</i>	20	20	100%		0%	20	100%		0%		0%	20	100%		0%	20	100%	20	100%		0%
<b>Latex Agglutination</b>	<b>37</b>	<b>37</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>37</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>37</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>37</b>	<b>100%</b>	<b>37</b>	<b>100%</b>	<b>0</b>	<b>0%</b>
<i>Fisher</i>	22	22	100%		0%	22	100%		0%		0%	22	100%		0%	22	100%	22	100%		0%
<i>Others</i>	15	15	100%		0%	15	100%		0%		0%	15	100%		0%	15	100%	15	100%		0%
<b>Other Methods</b>	10	9	90%	1	10%	10	100%		0%	1	10%	9	90%	1	10%	9	90%	9	90%	1	10%
<b>Analyte Total</b>	<b>158</b>	<b>157</b>	<b>99%</b>	<b>1</b>	<b>1%</b>	<b>158</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>1%</b>	<b>157</b>	<b>99%</b>	<b>2</b>	<b>1%</b>	<b>153</b>	<b>97%</b>	<b>157</b>	<b>99%</b>	<b>1</b>	<b>1%</b>

<sup>1</sup> Two laboratories reported an equivocal result on sample #14

<sup>2</sup> One laboratory reported an equivocal result on sample #14

## Rubella Antibody Quantitative

Results are summarized for positive test samples 13 and 14. The Mean values  $\pm$  S.D. are given where 10 or more laboratories reported quantitative results. Outlier values are omitted.

Method <i>Manufacturer</i>	No. Labs	Unit	Sample 13	Sample 14
<b>Chemiluminescence Total</b>	26	IU/ml	$63 \pm 11$	$16 \pm 1.0$
<i>Diagnostic Products</i>	15	IU/ml	$55 \pm 3.5$	$15 \pm 3.0$
<i>Bayer(not included in total) *</i>	26	IU/ml	$483 \pm 66$	$120 \pm 11$
<b>EIA Total</b>	16	IU/ml	$54 \pm 11$	$20 \pm 3.7$

\* Results from Bayer Advia systems consistently run higher than all others.

## Rubella IgM Specific

Participant Results/ Sample Number																						
R = Reactive/ Positive; N = Non-Reactive/ Negative																						
Method <i>Manufacturer</i>	No. Labs	56 N				57 N				58 N				59 N				60 R				
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	
<b>EIA</b>	7	7	100%		0%	7	100%		0%	7	100%		0%	7	100%		0%		0%		7	100%
<b>Chemiluminescence</b>	10	10	100%		0%	10	100%		0%	10	100%		0%	10	100%		0%		0%		10	100%
<b>Analyte Total</b>	17	17	100%	0	0%	17	100%	0	0%	17	100%	0	0%	17	100%	0	0%	0	0%		17	100%

## Syphilis - Reagin Antibody

		Participant Results/ Sample Number																			
		R = Reactive/ Positive; N = Non-Reactive/ Negative																			
Method	No. Labs	1 R				2 N				3 N				4 R				5 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>RPR</b>	<b>252</b>	<b>0</b>	<b>0%</b>	<b>252</b>	<b>100%</b>	<b>252</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>252</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>252</b>	<b>100%</b>	<b>251</b>	<b>100%</b>	<b>1</b>	<b>0%</b>
<i>ASI</i>	39		0%	39	100%	39	100%		0%	39	100%		0%		0%	39	100%	39	100%		0%
<i>Becton Dickenson</i>	121		0%	121	100%	121	100%		0%	121	100%		0%		0%	121	100%	120	99%	1	1%
<i>Fisher</i>	43		0%	43	100%	43	100%		0%	43	100%		0%		0%	43	100%	43	100%		0%
<i>True Medix</i>	17		0%	17	100%	17	100%		0%	17	100%		0%		0%	17	100%	17	100%		0%
<i>Wampole/Zeus</i>	20		0%	20	100%	20	100%		0%	20	100%		0%		0%	20	100%	20	100%		0%
<i>Others</i>	12		0%	12	100%	12	100%		0%	12	100%		0%		0%	12	100%	12	100%		0%
<b>Analyte Total</b>	<b>252</b>	<b>0</b>	<b>0%</b>	<b>252</b>	<b>100%</b>	<b>252</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>252</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>252</b>	<b>100%</b>	<b>251</b>	<b>100%</b>	<b>1</b>	<b>0%</b>

## Syphilis - Reagin Antibody

### RPR Procedures

The number of laboratories that reported titers is listed for positive test samples 1 and 4 for the RPR procedure. Only testing systems with 10 or more laboratories reporting titers are listed in this table.

Method <i>Manufacturer</i>	No. Labs	Sample 1 Titer					Sample 4 Titer						
		1	2	4	8	16	32	1	2	4	8	16	32
<i>Total</i>	252	6	103	108	9	2		3	88	119	17	2	
<i>ASI</i>	39		15	10	2				8	16	2	1	
<i>Becton Dickenson</i>	121	2	40	65	5	1		1	34	69	9		
<i>Fisher</i>	43		23	17	2			1	22	16	4		
<i>True Medix</i>	17	3	6	7		1		1	8	6	1	1	
<i>Wampole/ Zeus</i>	20		13	7					10	9	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, or they reported the sample as nonreactive.

## Syphilis - Treponemal Antibody

Participant Results/ Sample Number																					
R = Reactive/ Positive; N = Non-Reactive/ Negative																					
Method	No. Labs	1 R				2 N				3 N				4 R				5 N			
		N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%	N	%	R	%
<b>EIA</b>	18	0	0%	18	100%	18	100%	0	0%	18	100%	0	0%	0	0%	18	100%	18	100%	0	0%
<i>Others</i>	18		0%	18	100%	18	100%		0%	18	100%		0%		0%	18	100%	18	100%		0%
<b>Gel. Part. Agglut.</b>	32	0	0%	32	100%	32	100%	0	0%	32	100%	0	0%	1	3%	31	97%	30	94%	2	6%
<i>Fujirebio</i>	32		0%	32	100%	32	100%		0%	32	100%		0%	1	3%	31	97%	30	94%	2	6%
<b>IFA</b>	21	0	0%	21	100%	21	100%	0	0%	21	100%	0	0%	0	0%	21	100%	21	100%	0	0%
<i>Wampole/Zeus</i>	21		0%	21	100%	21	100%		0%	21	100%		0%		0%	21	100%	21	100%		0%
<b>Other Methods <sup>1</sup></b>	14		0%	14	100%	6	43%	8	57%	6	43%	8	57%		0%	14	100%	5	36%	8	57%
<b>Analyte Total</b>	<b>85</b>	<b>0</b>	<b>0%</b>	<b>85</b>	<b>100%</b>	<b>77</b>	<b>91%</b>	<b>8</b>	<b>9%</b>	<b>77</b>	<b>91%</b>	<b>8</b>	<b>9%</b>	<b>1</b>	<b>1%</b>	<b>84</b>	<b>99%</b>	<b>74</b>	<b>87%</b>	<b>10</b>	<b>12%</b>

<sup>1</sup> Lab reported an equivocal result on sample #5.

## AAT, C'3, and C'4

The Mean mg/dl  $\pm$  S.D. is given where 10 or more laboratories reported values. Outlier values are omitted.

Analytes	Sample NO.					
	No. Labs	76	77	78	79	80
<b>Alpha-1-Antitrypsin</b>						
Nephelometry/ <i>Behring Nephelometer</i>	18	16 $\pm$ 1.2	97 $\pm$ 6.4	83 $\pm$ 4.5	36 $\pm$ 1.7	6.1 $\pm$ 0.6
Nephelometry/ <i>Total</i>	26	17 $\pm$ 2.6	95 $\pm$ 5.2	84 $\pm$ 6.7	36 $\pm$ 1.9	6.1 $\pm$ 0.6
All Method/ <i>Total</i>	36	17 $\pm$ 3.1	93 $\pm$ 8.7	84 $\pm$ 7.1	36 $\pm$ 2.7	6.2 $\pm$ 0.5
<b>Complement C'3</b>		76	77	78	79	80
Nephelometry/ <i>Beckman Coulter IMMAGE</i>	16	24 $\pm$ 0.9	76 $\pm$ 2.9	100 $\pm$ 5.1	35 $\pm$ 2.1	29 $\pm$ 1.0
Nephelometry/ <i>Behring Nephelometer</i>	11	24 $\pm$ 1.5	86 $\pm$ 3.1	111 $\pm$ 2.9	36 $\pm$ 1.7	30 $\pm$ 1.7
Turbidimetry/ <i>Roche Cobas Integra</i>	14	23 $\pm$ 0.9	73 $\pm$ 2.7	97 $\pm$ 3.3	35 $\pm$ 2.4	29 $\pm$ 1.1
Nephelometry/ <i>Total</i>	33	24 $\pm$ 1.3	81 $\pm$ 6.3	106 $\pm$ 6.7	35 $\pm$ 2.3	30 $\pm$ 1.3
Turbidimetry/ <i>Total</i>	64	24 $\pm$ 2.0	72 $\pm$ 4.0	97 $\pm$ 6.1	36 $\pm$ 2.2	30 $\pm$ 2.5
All Method/ <i>Total</i>	102	24 $\pm$ 1.9	75 $\pm$ 6.6	100 $\pm$ 7.7	36 $\pm$ 2.3	30 $\pm$ 2.2
<b>Complement C'4</b>		76	77	78	79	80
Nephelometry/ <i>Beckman Coulter IMMAGE</i>	16	4.4 $\pm$ 0.3	14 $\pm$ 0.6	19 $\pm$ 1.0	8.0 $\pm$ 0.1	3.8 $\pm$ 0.2
Nephelometry/ <i>Behring Nephelometer</i>	11	4.3 $\pm$ 0.3	13 $\pm$ 0.8	18 $\pm$ 0.8	7.7 $\pm$ 0.4	3.6 $\pm$ 0.4
Turbidimetry/ <i>Roche Cobas Integra</i>	15	3.5 $\pm$ 0.6	11 $\pm$ 0.8	15 $\pm$ 0.8	6.7 $\pm$ 0.7	3.2 $\pm$ 0.5
Nephelometry/ <i>Total</i>	33	4.3 $\pm$ 0.3	14 $\pm$ 0.9	19 $\pm$ 1.2	7.8 $\pm$ 0.6	3.6 $\pm$ 0.3
Turbidimetry/ <i>Total</i>	55	3.7 $\pm$ 0.7	12 $\pm$ 1.3	16 $\pm$ 1.6	7.0 $\pm$ 0.9	3.2 $\pm$ 0.5
All Method/ <i>Total</i>	100	3.9 $\pm$ 0.6	13 $\pm$ 1.5	17 $\pm$ 1.9	7.2 $\pm$ 0.9	3.4 $\pm$ 0.5

## 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 10 or more laboratories reported values. Outlier values are omitted.

Analytes (Unit)	No. Labs	Sample NO.				
		81	82	83	84	85
<b>Immunoglobulin A (mg/dl)</b>						
Nephelometry/Beckman Coulter IMMAGE	19	227 $\pm$ 11	47 $\pm$ 2.4	52 $\pm$ 2.6	207 $\pm$ 9.8	103 $\pm$ 4.9
Nephelometry/Behring Nephelometer	14	251 $\pm$ 15	50 $\pm$ 2.4	61 $\pm$ 2.9	230 $\pm$ 8.9	114 $\pm$ 4.3
Turbidimetry/ Beckman Coulter Synchron	11	237 $\pm$ 5.1	51 $\pm$ 4.0	58 $\pm$ 4.7	210 $\pm$ 4.8	112 $\pm$ 5.3
Turbidimetry/ Roche Cobas Integra	14	227 $\pm$ 8.0	47 $\pm$ 2.5	50 $\pm$ 2.5	204 $\pm$ 7.2	101 $\pm$ 5.6
Turbidimetry/ Roche/Hitachi Modular	10	214 $\pm$ 17	48 $\pm$ 3.8	54 $\pm$ 4.6	189 $\pm$ 7.0	99 $\pm$ 6.0
Nephelometry/ Total	43	239 $\pm$ 16	48 $\pm$ 3.1	56 $\pm$ 5.5	218 $\pm$ 13	108 $\pm$ 7.3
Turbidimetry/ Total	62	228 $\pm$ 14	48 $\pm$ 3.5	56 $\pm$ 5.7	201 $\pm$ 13	105 $\pm$ 8.0
All Method/ Total	109	233 $\pm$ 17	48 $\pm$ 3.4	56 $\pm$ 5.8	209 $\pm$ 15	107 $\pm$ 8.1
<b>Immunoglobulin E (IU/ml)</b>						
Chemiluminescence/Bayer Advia	12	206 $\pm$ 8.4	28 $\pm$ 2.1	4.2 $\pm$ 1.2	185 $\pm$ 7.0	685 $\pm$ 32
Chemiluminescence/Diag. Prod. Co.	27	214 $\pm$ 19	30 $\pm$ 1.8	3.3 $\pm$ 0.3	191 $\pm$ 11	622 $\pm$ 49
FEIA/ Pharmacia Immucap	12	195 $\pm$ 16	27 $\pm$ 2.1	4.2 $\pm$ 0.6	176 $\pm$ 13	660 $\pm$ 52
Chemiluminescence/ Total	47	210 $\pm$ 13	29 $\pm$ 2.3	3.5 $\pm$ 0.5	188 $\pm$ 11	640 $\pm$ 52
FEIA/ Total	18	196 $\pm$ 7.7	27 $\pm$ 2.1	4.4 $\pm$ 0.7	179 $\pm$ 9.0	673 $\pm$ 48
All Method/ Total	76	202 $\pm$ 17	28 $\pm$ 2.4	3.8 $\pm$ 0.8	183 $\pm$ 14	653 $\pm$ 56
<b>Immunoglobulin G (mg/dl)</b>						
Nephelometry/Beckman Coulter IMMAGE	18	1244 $\pm$ 69	252 $\pm$ 16	284 $\pm$ 16	977 $\pm$ 46	778 $\pm$ 40
Nephelometry/Behring Nephelometer	14	1271 $\pm$ 101	252 $\pm$ 11	298 $\pm$ 15	1040 $\pm$ 65	816 $\pm$ 38
Turbidimetry/ Beckman Coulter Synchron	10	1237 $\pm$ 35	232 $\pm$ 12	278 $\pm$ 14	971 $\pm$ 9.1	743 $\pm$ 17
Turbidimetry/Roche Cobas Integra	14	1237 $\pm$ 26	236 $\pm$ 12	269 $\pm$ 13	981 $\pm$ 31	756 $\pm$ 28
Turbidimetry/Roche/Hitachi Modular	10	1159 $\pm$ 27	229 $\pm$ 21	271 $\pm$ 27	923 $\pm$ 26	728 $\pm$ 22
Nephelometry/ Total	42	1266 $\pm$ 86	255 $\pm$ 12	294 $\pm$ 18	1012 $\pm$ 62	797 $\pm$ 40
Turbidimetry/ Total	59	1227 $\pm$ 71	237 $\pm$ 19	275 $\pm$ 19	959 $\pm$ 44	748 $\pm$ 29
All Method/ Total	105	1242 $\pm$ 76	245 $\pm$ 20	285 $\pm$ 23	983 $\pm$ 63	772 $\pm$ 48
<b>Immunoglobulin M (mg/dl)</b>						
Nephelometry/Beckman Coulter IMMAGE	18	121 $\pm$ 7.1	25 $\pm$ 1.4	22 $\pm$ 1.5	96 $\pm$ 5.2	38 $\pm$ 2.7
Nephelometry/Behring Nephelometer	15	132 $\pm$ 4.7	25 $\pm$ 0.7	22 $\pm$ 1.2	108 $\pm$ 4.2	36 $\pm$ 3.0
Turbidimetry/ Beckman Coulter Synchron	10	116 $\pm$ 2.4	26 $\pm$ 1.1	23 $\pm$ 3.7	92 $\pm$ 2.0	40 $\pm$ 1.9
Turbidimetry/Roche Cobas Integra	14	114 $\pm$ 5.8	23 $\pm$ 2.5	23 $\pm$ 3.7	84 $\pm$ 4.1	33 $\pm$ 4.0
Turbidimetry/Roche/Hitachi Modular	10	116 $\pm$ 3.7	28 $\pm$ 4.5	24 $\pm$ 1.2	89 $\pm$ 4.0	35 $\pm$ 3.3
Nephelometry/ Total	40	126 $\pm$ 7.7	25 $\pm$ 1.3	22 $\pm$ 1.4	102 $\pm$ 7.3	37 $\pm$ 2.9
Turbidimetry/ Total	59	115 $\pm$ 5.4	26 $\pm$ 1.7	23 $\pm$ 3.7	91 $\pm$ 8.2	38 $\pm$ 6.1
All Method/ Total	103	123 $\pm$ 12	25 $\pm$ 1.2	22 $\pm$ 2.4	97 $\pm$ 11	37 $\pm$ 3.7

**Acceptable Response (January 14, 2009 PT Event)**  
**Quantitative Tests Results (Acceptable Range) - For groups of 10 labs or more.**

Analytes	Sample NO.				
Method/ Manufacture					
<b>Alpha-1-Antitrypsin</b>	76	77	78	79	80
Nephelometry/Dade Behring Neph.	12 - 20	78 - 117	70 - 97	21 - 42	4 - 8
Nephelometry/ Total	9 - 26	79 - 111	63 - 104	30 - 43	4 - 8
All Method/ Total	7 - 27	67 - 119	62 - 106	27 - 44	4 - 8
<b>Complement C'3</b>	76	77	78	79	80
Nephelometry/Beckman Coulter Image	21 - 27	66 - 85	85 - 116	28 - 42	26 - 32
Nephelometry/Dade Behring Neph.	19 - 29	76 - 96	102 - 121	31 - 42	25 - 36
Turbidimetry/Roche Cobas Integra	20 - 26	64 - 81	87 - 108	27 - 42	25 - 33
Nephelometry/ Total	19 - 29	61 - 100	85 - 126	28 - 43	25 - 34
Turbidimetry/ Total	18 - 31	60 - 84	78 - 116	28 - 42	22 - 38
All Method/ Total	18 - 31	55 - 95	77 - 124	28 - 43	23 - 37
<b>Complement C'4</b>	76	77	78	79	80
Nephelometry/Beckman Coulter Image	3 - 6	12 - 16	16 - 22	7 - 9	3 - 5
Nephelometry/Dade Behring Neph.	3 - 6	11 - 16	15 - 21	6 - 9	2 - 5
Turbidimetry/Roche Cobas Integra	1 - 6	9 - 14	12 - 18	4 - 9	1 - 5
Nephelometry/ Total	3 - 6	11 - 17	15 - 23	6 - 10	2 - 5
Turbidimetry/ Total	1 - 6	8 - 16	11 - 21	4 - 10	1 - 5
All Method/ Total	2 - 6	8 - 18	11 - 23	4 - 10	1 - 5
<b>Immunoglobulin A</b>	81	82	83	84	85
Nephelometry/Beckman Coulter Image	194 - 260	39 - 54	44 - 60	177 - 237	88 - 119
Nephelometry/Dade Behring Neph .	207 - 296	42 - 57	52 - 70	203 - 257	101 - 128
Turbidimetry/ Beckman Coulter Synch.	222 - 253	39 - 64	44 - 73	195 - 225	96 - 128
Turbidimetry/ Roche Cobas Integra	203 - 252	39 - 55	42 - 58	182 - 226	84 - 118
Turbidimetry/ Roche/Hitachi Modular	163 - 265	36 - 60	40 - 68	168 - 210	81 - 117
Nephelometry/ Total	190 - 289	38 - 58	39 - 73	178 - 257	86 - 130
Turbidimetry/ Total	184 - 272	37 - 59	38 - 73	163 - 240	81 - 130
All Method/ Total	183 - 284	38 - 59	38 - 74	163 - 255	82 - 132
<b>Immunoglobulin E</b>	81	82	83	84	85
Chemiluminescence/Bayer Advia	180 - 232	21 - 35	1 - 8	163 - 207	587 - 782
Chemiluminescence/Diag.Prod. Immulite	155 - 273	24 - 36	2 - 5	158 - 224	474 - 770
FEIA/Pharmacia Immucap	148 - 242	20 - 34	2 - 6	137 - 215	502 - 816
Chemiluminescence/ Total	172 - 249	21 - 36	1 - 6	155 - 221	485 - 795
FEIA/ Total	172 - 219	20 - 34	2 - 7	151 - 207	527 - 819
All Method/ Total	150 - 255	20 - 36	1 - 7	141 - 225	483 - 823
<b>Immunoglobulin G</b>	81	82	83	84	85
Nephelometry/Beckman Coulter Image	932 - 1555	188 - 315	213 - 356	732 - 1222	583 - 973
Nephelometry/Dade Behring Neph .	953 - 1589	189 - 316	224 - 373	780 - 1301	612 - 1020
Turbidimetry/ Beckman Coulter Synch.	928 - 1547	174 - 290	208 - 348	728 - 1215	558 - 930
Turbidimetry/Roche Cobas Integra	927 - 1547	177 - 296	201 - 336	736 - 1227	566 - 945
Turbidimetry/ Roche/Hitachi Modular	869 - 1450	171 - 286	203 - 339	691 - 1153	546 - 911
Nephelometry/ Total	949 - 1583	190 - 319	220 - 368	759 - 1266	597 - 996
Turbidimetry/ Total	920 - 1535	178 - 297	206 - 344	719 - 1199	561 - 935
All Method/ Total	931 - 1553	183 - 306	214 - 357	737 - 1229	578 - 965
<b>Immunoglobulin M</b>	81	82	83	84	85
Nephelometry/Beckman Coulter Image	99 - 143	20 - 30	17 - 27	80 - 112	30 - 47
Nephelometry/Dade Behring Neph .	117 - 148	22 - 27	18 - 26	95 - 122	26 - 45
Turbidimetry/ Beckman Coulter Synch.	108 - 123	22 - 30	12 - 35	86 - 99	34 - 46
Turbidimetry/Roche Cobas Integra	96 - 132	15 - 31	12 - 35	71 - 96	21 - 46
Turbidimetry/ Roche/Hitachi Modular	104 - 128	14 - 42	20 - 28	76 - 101	24 - 45
Nephelometry/ Total	103 - 150	21 - 30	17 - 26	79 - 124	28 - 46
Turbidimetry/ Total	98 - 132	20 - 31	12 - 35	66 - 116	19 - 57
All Method/ Total	86 - 160	21 - 30	15 - 30	63 - 131	26 - 49

**Acceptable Response (January 14, 2009 PT Event)**

**Qualitative / Quantitative Tests Results**

Analytes	Sample NO.				
	1	2	3	4	5
<b>Syphilis - Reagin</b>	R	N	N	R	N
<i>RPR Titer</i>	1 - 16	< 1	< 1	1 - 16	< 1
<b>Syphilis - Treponemal</b>	R	N	N	R	N
	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>HBcAb</b>	R	R	N	N	N
<b>HBsAg</b>	R	N	R	N	N
<b>HBsAg Confirmation</b>	R	N	R	N	N
	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
<b>CMV</b>	N	N	R	R	N
<b>Rubella Ab</b>	N	N	R	R	N
<b>Rubella Ab Quantitative</b> <i>EIA IU/ml</i>	< 5	< 5	22 - 86	8 - 32	< 5
<i>Chemiluminescent IU/ml</i>	< 10	< 10	28 - 98	12 - 20	< 10
<i>Advia Centaur IU/ml</i>	< 10	< 10	283 - 683	85 - 155	< 10
	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>ASO</b>	N	R	N	R	N
<b>ASO Quantitative</b> <i>Latex IU/ml</i>	< 200	200 - 1600	< 200	200 - 1600	< 200
<i>Nephelometry IU/ml</i>	< 100	195 - 1109	< 100	69 - 976	< 100
<i>Turbidimetry IU/ml</i>	< 100	358 - 1156	< 100	292 - 1000	< 100
	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>Infectious Mono.</b>	R	N	N	N	R
<b>Rheumatoid Factor</b>	R	N	N	N	R
<b>RF Quantitative</b>					
<i>Latex (Dilution Scheme A)</i>	20 - 1280	< 20	< 20	< 20	20 - 640
<i>Latex (Dilution Scheme B)</i>	2 - 128	< 2	< 2	< 2	2 - 64
<i>Nephelometry IU/ml</i>	120 - 367	< 20	< 20	< 20	71 - 375
<i>Turbidimetry IU/ml</i>	72 - 492	< 20	< 20	< 20	102 - 453
	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>
<b>HIV Ab Screening/Confirmation</b>	N	R	R	N	N
	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
<b>HTLV 1 Ab</b>	R	N	N	R	N
	<b>41</b>	<b>42</b>	<b>43 *</b>	<b>44 *</b>	<b>45</b>
<b>LYME Disease Ab</b>	N	N	R	R	N
<b>LYME Disease Ab WB IgG</b>	N	N	R	R	N
<b>LYME Disease Ab WB IgM</b>	N	N	R	R	N
	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
<b>ANA</b>	N	N	R	N	R
<i>IFA Titer</i>	< 40	< 40	160 - 2560	<40	40 - 1280
	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>
<b>Rubella IgM</b>	N	N	N	N	R
	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>
<b>Hepatitis Be Ag</b>	N	R	N	R	N
	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>
<b>Hepatitis C Ab</b>	R	N	N	R	N
<b>Hepatitis C Ab Confirmation</b>	R	N	N	R	N

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

\* This test sample was not authenticated, because a consensus of 80% agreement was not reached. All participating laboratories received credit for this sample.