

**Centers for Disease Control and Prevention
Model Performance Evaluation Program
Human Immunodeficiency Virus Type 1
(HIV-1) Antibody Testing**

**Figures Used for the Analysis
of the January 25, 1999 Performance Evaluation
Testing Results Reported by Participant Laboratories**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
Public Health Practice Program Office
Division of Laboratory Systems
Atlanta, Georgia 30341-3724**



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U.S. Department of Health and Human Services.**

Report of the January 25, 1999 Human Immunodeficiency Virus Type I (HIV-1) Antibody Performance Evaluation Sample Testing Results Provided by Participant Laboratories in the Model Performance Evaluation Program, Centers for Disease Control and Prevention (CDC).

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**Centers for Disease Control and Prevention (CDC)
Model Performance Evaluation Program
Human Immunodeficiency Virus Type 1 (HIV-1) Antibody Testing
January 25, 1999 Participant Laboratory Shipment**

Table 1

Panel Letter	Vial Label	CDC Donor Number	CDC Test Result ²	Donor HIV Status	Laboratory Interpretation ¹			
					EIA		WB	IIF
					INIT. ³	FINAL ⁴		
H	H1	17	Positive	Infected	—	—	—	—
	H2	01	Indeterminate	Infected	—	—	—	—
	H3,H4	08	See Table 2	Infected	—	—	—	—
	H5,H6	15	Negative	Uninfected	—	—	—	—
I	I1	02	See Table 2	Infected	—	—	—	—
	I2	18	Positive	Infected	—	—	—	—
	I3,I4	09	See Table 2	Infected	—	—	—	—
	I5, I6	16	Negative	Uninfected	—	—	—	—
J	J1,J4	15	Negative	Uninfected	—	—	—	—
	J2,J5	10	Positive	Infected	—	—	—	—
	J3	17	Positive	Infected	—	—	—	—
	J6	03	Indeterminate	Infected	—	—	—	—
K	K1	04	Positive	Infected	—	—	—	—
	K2,K5	11	Positive	Infected	—	—	—	—
	K3,K6	16	Negative	Uninfected	—	—	—	—
	K4	18	Positive	Infected	—	—	—	—

Table 1, Continued ' '

Table 1, Continued

Panel Letter	Vial Label	CDC Donor Number	CDC Test Result ²	Donor HIV Status	Laboratory Interpretation ¹			
					EIA INIT. ³	FINAL ⁴	WB	IIF
L	L1,L4	15	Negative	Uninfected	___	___	___	___
	L2	05	Positive	Infected	___	___	___	___
	L3,L6	12	Positive	Infected	___	___	___	___
	L5	17	Positive	Infected	___	___	___	___
M	M1,M4	13	Positive	Infected	___	___	___	___
	M2,M5	16	Negative	Uninfected	___	___	___	___
	M3	06	Positive	Infected	___	___	___	___
	M6	18	Positive	Infected	___	___	___	___
N	N1	17	Positive	Infected	___	___	___	___
	N2,N5	14	Positive	Infected	___	___	___	___
	N3,N6	15	Negative	Uninfected	___	___	___	___
	N4	07	Positive	Infected	___	___	___	___

¹ Laboratory Interpretation space (to be completed by participant laboratory) provided to facilitate comparison of participant laboratory result with CDC result.

² The CDC result was obtained after composite testing with all HIV-1 and HIV-1/HIV-2 EIA and HIV-1 WB kits licensed by the Food and Drug Administration (FDA). The CDC WB interpretation is consistent with the manufacturer's criteria for interpretation of WB results.

³ Initial EIA interpretation

⁴ Final EIA interpretation

**Centers for Disease Control and Prevention (CDC)
Model Performance Evaluation Program for
Human Immunodeficiency Virus Type I (HIV-1) Antibody Testing**

**Table 2. CDC Western Blot (WB) Testing Results for the
January 25, 1999 Participant Laboratory Panel Samples**

Panel Letter	Vial Label	CDC Donor Number	CDC Western Blot Test Results Specific WB Bands Detected ¹	WB Test Kit Manufacturer	CDC Interpretation ²
H	H 1	17	18,24,32,41,51,55,65,120,160 17,24,31,41,51,55,66,120,160 18,24,31,41,51,65,120,160	BioRad Cambridge Biotech* Epitope/Organon	Positive Positive Positive
	H 2	01	24,51 24 24	BioRad Cambridge Biotech Epitope/Organon	Indeterminate Indeterminate Indeterminate
	H 3,H 4	08	24,55 24,66,160 24	BioRad Cambridge Biotech Epitope/Organon	Indeterminate Positive Indeterminate
	H 5,H 6	15	No Bands	All Manufacturers	Negative
I	I 1	02	24 24,120,160 24,160	BioRad Cambridge Biotech Epitope/Organon	Indeterminate Positive Positive
	I 2	18	24,32,41,51,55,65,120,160 24,31,41,51,55,66,120,160 24,31,41,51,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive
	I 3,I 4	09	24,55,160 24,66,160 24	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Indeterminate
	I 5,I 6	16	No Bands	All Manufacturers	Negative
J	J 1,J 4	15	No Bands	All Manufacturers	Negative
	J 2,J 5	10	18,24,32,41,51,55,65,120,160 17,24,31,41,51,55,66,120,160 18,24,31,41,51,55,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive
	J 3	17	18,24,32,41,51,55,65,120,160 17,24,31,41,51,55,66,120,160 18,24,31,41,51,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive
	J 6	03	24,51 24 24	BioRad Cambridge Biotech Epitope/Organon	Indeterminate Indeterminate Indeterminate
K	K 1	04	18,24,32,41,51,55,65,120,160 17,24,31,41,51,55,66,120,160 24,31,41,51,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive
	K 2,K 5	11	18,24,32,41,51,55,65,120,160 17,24,31,41,51,66,120,160 24,31,41,51,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive
	K 3,K 6	16	No Bands	All Manufacturers	Negative
	K 4	18	24,32,41,51,55,65,120,160 24,31,41,51,55,66,120,160 24,31,41,51,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive

¹ Western blot (WB) result based on band intensity of $\geq 1+$ staining.

² The CDC interpretation is consistent with the manufacturer's criteria for interpretation of WB results.

* bioMerieux Vitek/Cambridge Biotech

Table 2, Continued

Panel Letter	Vial Label	CDC Donor Number	CDC Western Blot Test Results Specific WB Bands Detected ¹	WB Test Kit Manufacturer	CDC Interpretation ²
L	L1,L4	15	No Bands	All Manufacturers	Negative
	L2	05	24,32,41,51,65,120,160	BioRad	Positive
			24,31,41,51,66,120,160	Cambridge Biotech*	Positive
			24,31,41,51,65,120,160	Epitope/Organon	Positive
L3,L6	12	18,24,32,41,51,55,65,120,160	BioRad	Positive	
		17,24,31,41,51,66,120,160	Cambridge Biotech	Positive	
		18,24,31,41,51,55,65,120,160	Epitope/Organon	Positive	
L5	17	18,24,32,41,51,55,65,120,160	BioRad	Positive	
		17,24,31,41,51,55,66,120,160	Cambridge Biotech	Positive	
		18,24,31,41,51,65,120,160	Epitope/Organon	Positive	
M	M 1,M 4	13	18,24,32,41,51,55,65,120,160	BioRad	Positive
			17,24,31,41,51,66,120,160	Cambridge Biotech	Positive
			18,24,31,41,51,55,65,120,160	Epitope/Organon	Positive
	M 2,M 5	16	No Bands	All Manufacturers	Negative
M 3	06	18,24,32,41,51,55,65,120,160	BioRad	Positive	
		17,24,31,41,51,55,66,120,160	Cambridge Biotech	Positive	
M 6	18	24,32,41,51,55,65,120,160	BioRad	Positive	
		24,31,41,51,55,66,120,160	Cambridge Biotech	Positive	
N	N 1	17	18,24,32,41,51,55,65,120,160	BioRad	Positive
			17,24,31,41,51,55,66,120,160	Cambridge Biotech	Positive
			18,24,31,41,51,65,120,160	Epitope/Organon	Positive
	N 2,N 5	14	18,24,32,41,51,55,65,120,160	BioRad	Positive
17,24,31,41,51,55,66,120,160			Cambridge Biotech	Positive	
N 3,N 6	15	No Bands	All Manufacturers	Negative	
			N 4	07	18,24,32,41,51,55,65,120,160
			17,24,31,41,51,55,66,120,160	Cambridge Biotech	Positive
			24,31,41,51,65,120,160	Epitope/Organon	Positive

¹ Western blot (WB) result based on band intensity of $\geq 1+$ staining.

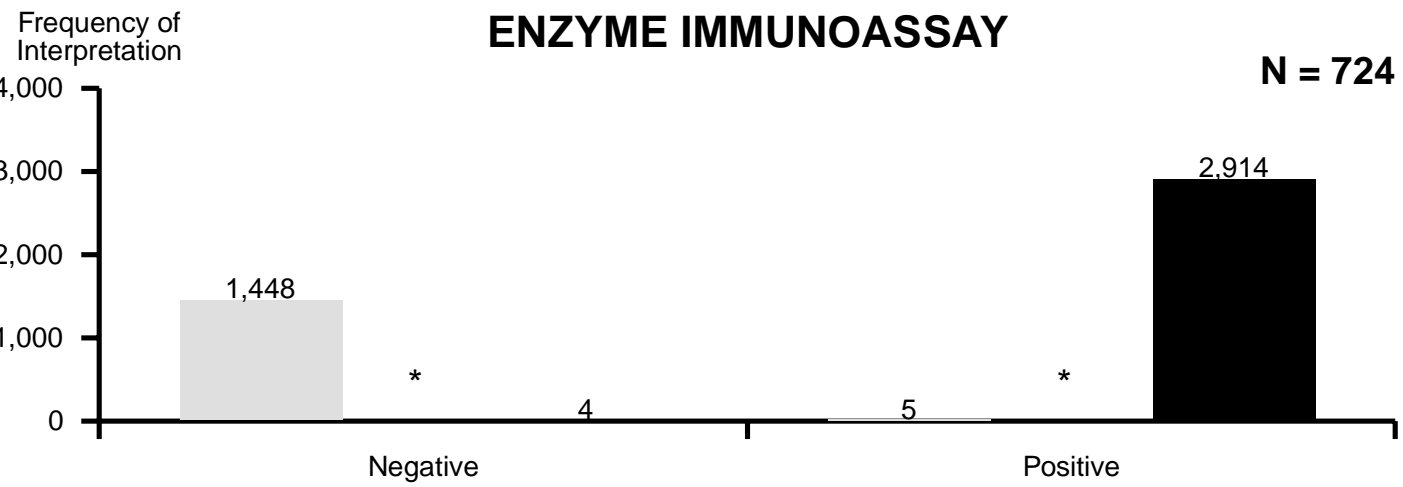
² The CDC interpretation is consistent with the manufacturer's criteria for interpretation of WB results.

* bioMerieux Vitek/Cambridge Biotech

**SUPPLEMENTAL INFORMATION FOR COMPREHENDING
THE NUMBERS USED TO LABEL FIGURES
IN THIS REPORT**

The "N=" that appears on each graph represents the number of laboratories that reported results. For some graphs, laboratories reported results using more than one test; therefore, the number of results may exceed the actual number of laboratories providing reports. In figures 1-7 and 10, the vertical axis is labeled either as frequency or percentage of results; in figures 8 and 9, this axis is labeled as percentage of reports. However, in all figures, the number appearing directly above or within each bar represents a frequency of results only.

Figure 1. Frequency of HIV-1 antibody test result interpretations, by sample type (reactivity), for enzyme immunoassay (EIA), Western blot (WB), and indirect immunofluorescence (IIF), reported by participant laboratories for the January 25, 1999 shipment



* = Indeterminate is not an EIA interpretation option; these areas have been left blank

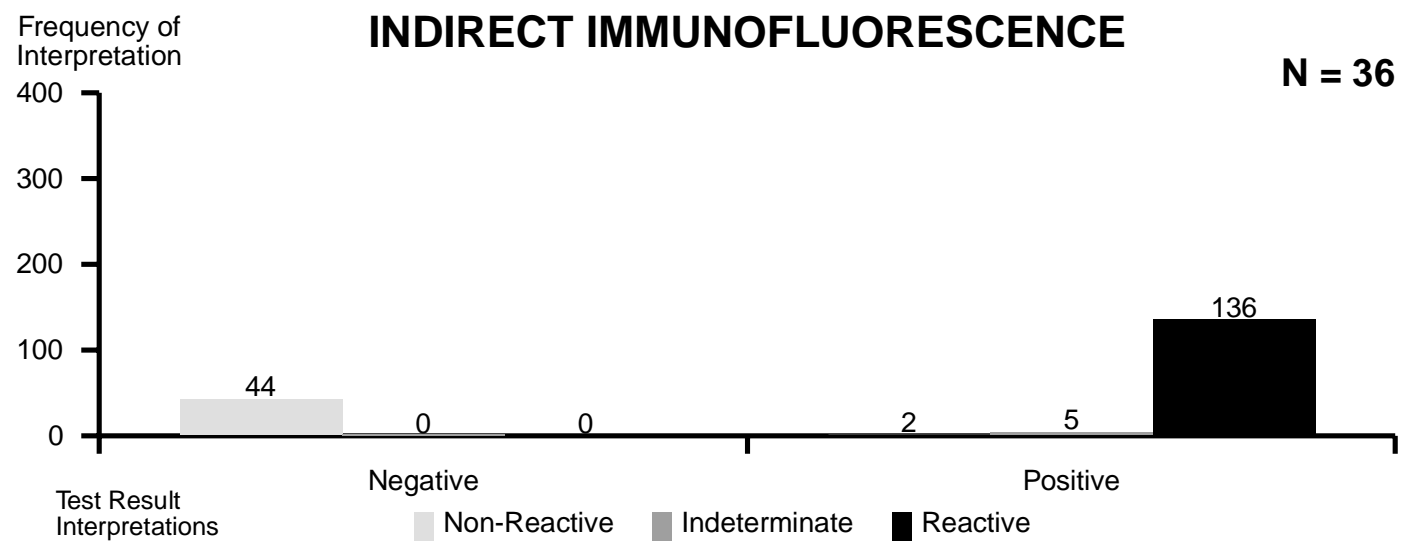
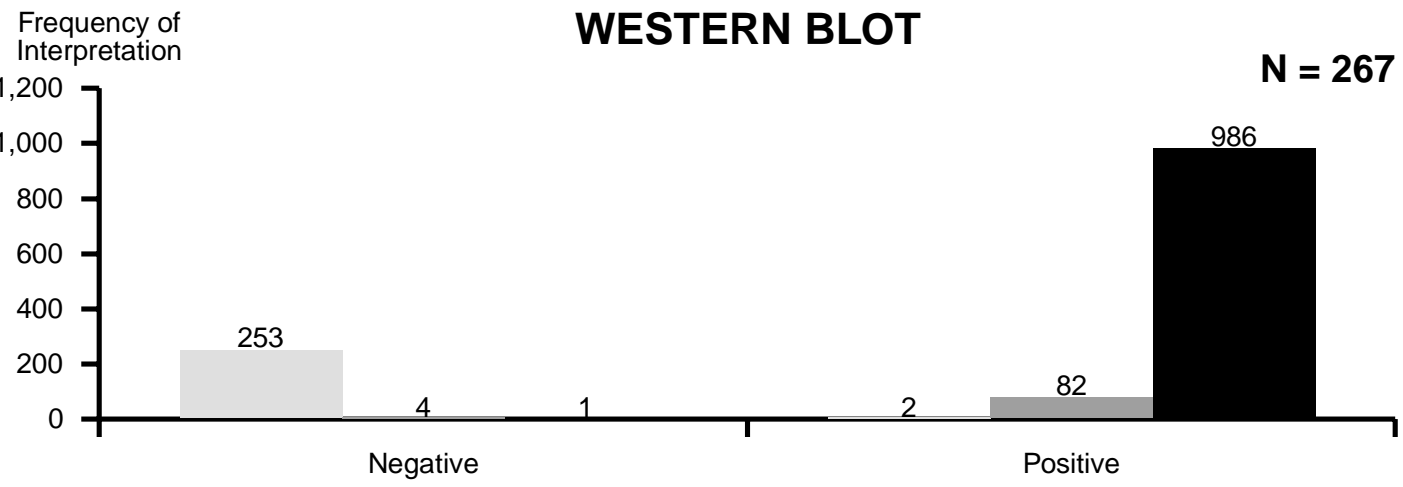


Figure 2. Percentage of HIV-1 participant laboratories, by laboratory type, that reported EIA, WB, and IIF results to the CDC for the January 25, 1999 shipment

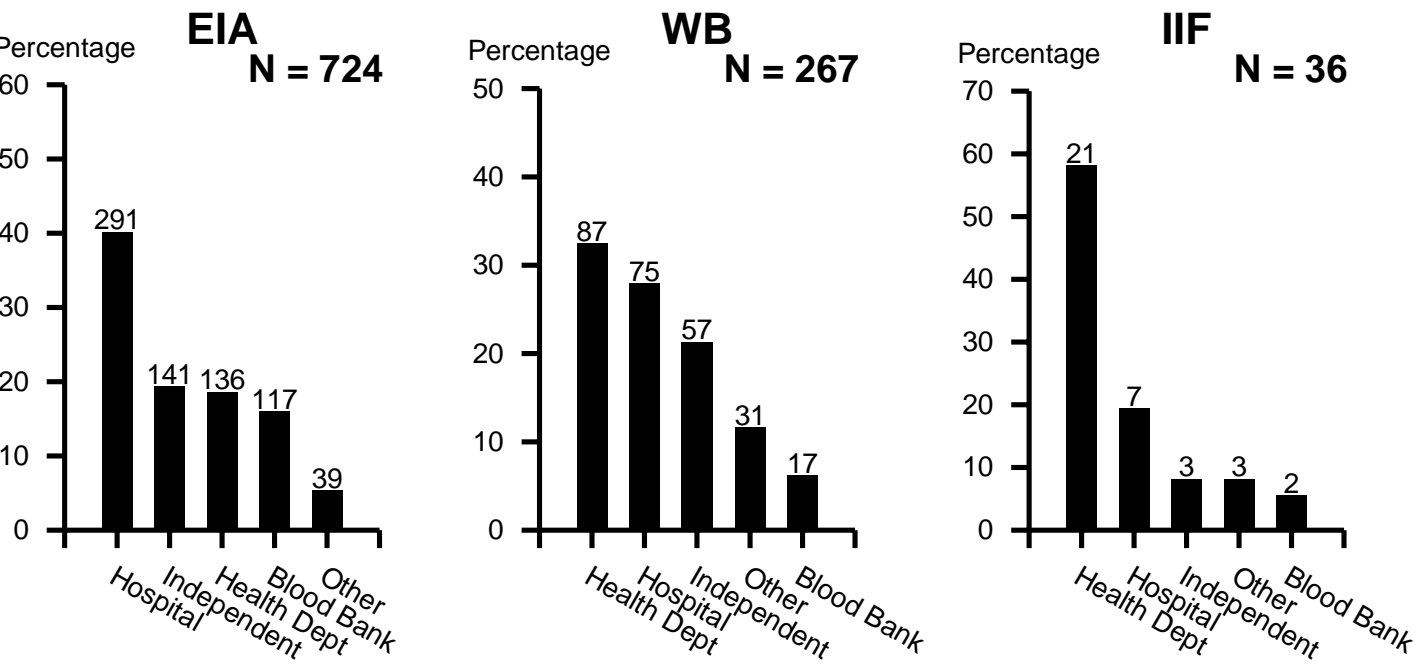


Figure 3. Combination of HIV-1 antibody tests reported by participant laboratories for the January 25, 1999 shipment

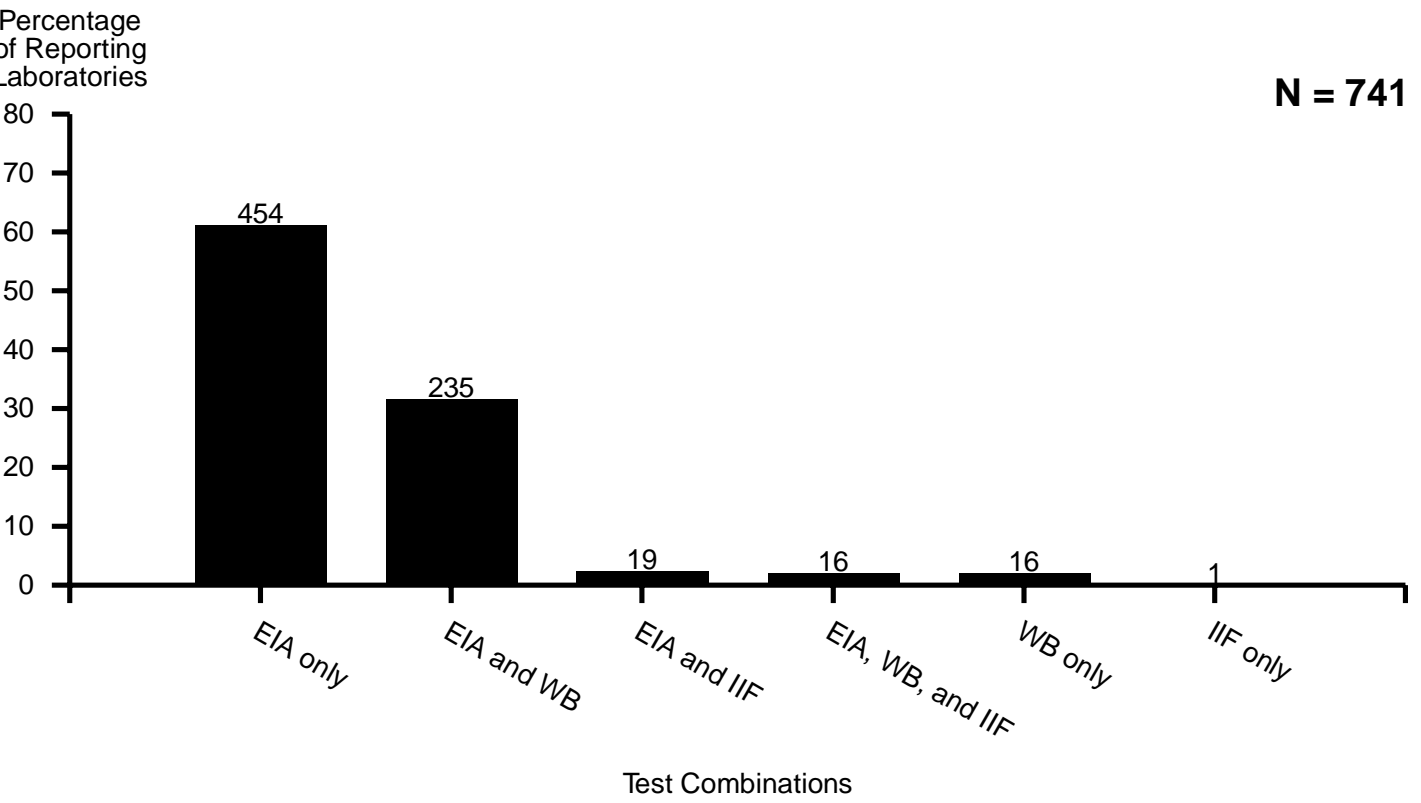


Figure 4. Types of HIV-1 antibody test kits used for enzyme immunoassay, Western blot, and indirect immunofluorescence, as reported by participant laboratories to the CDC for the January 25, 1999 shipment

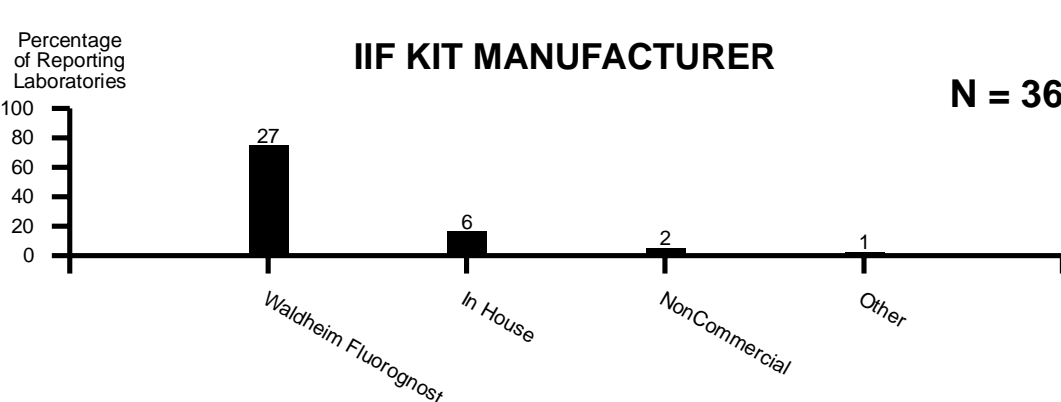
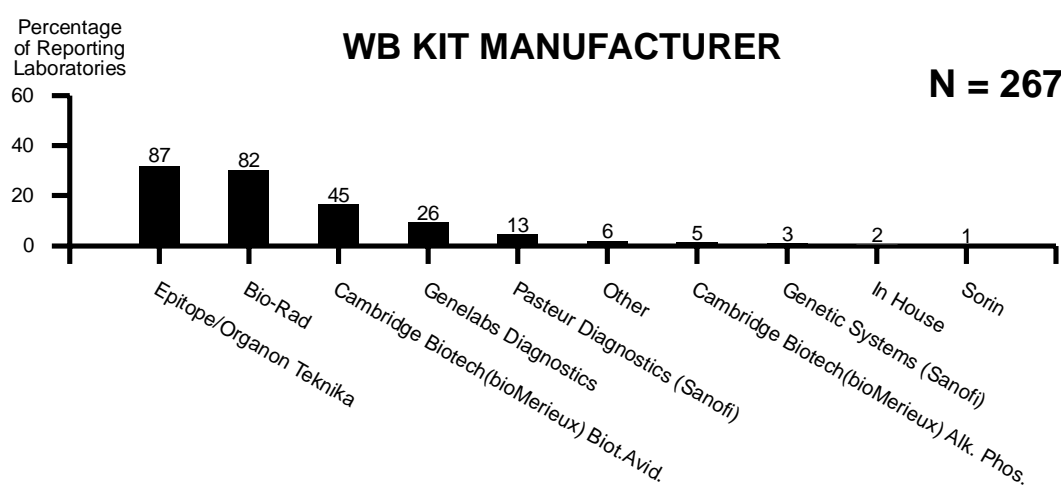
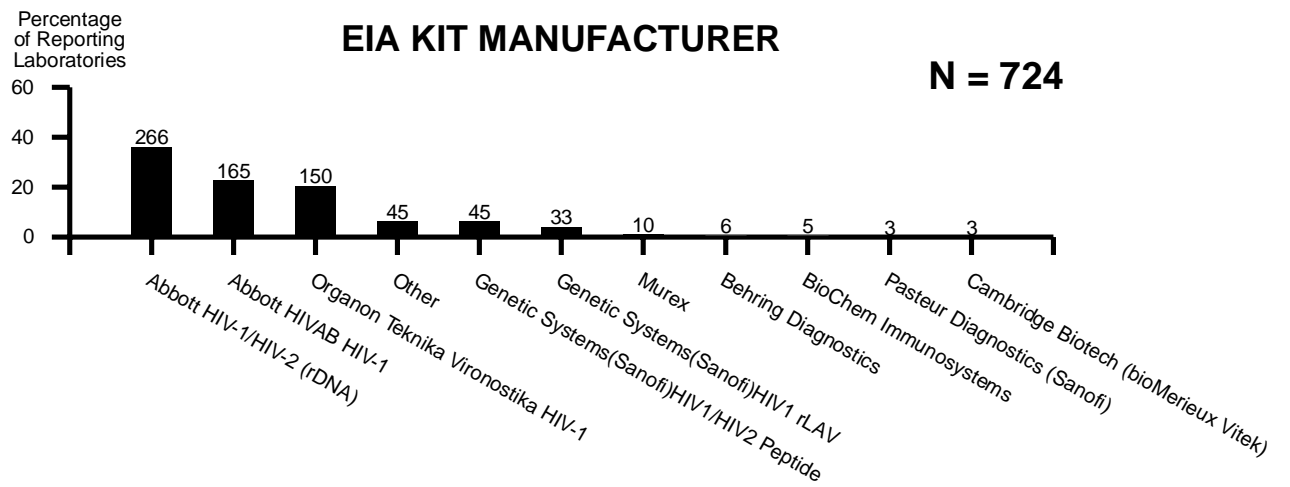
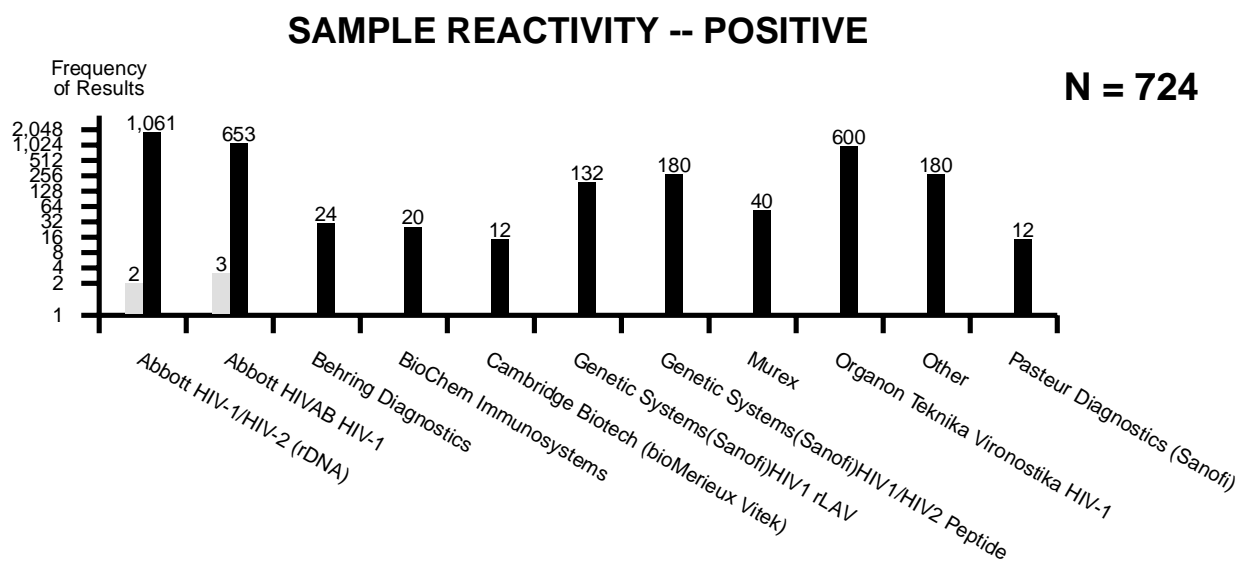
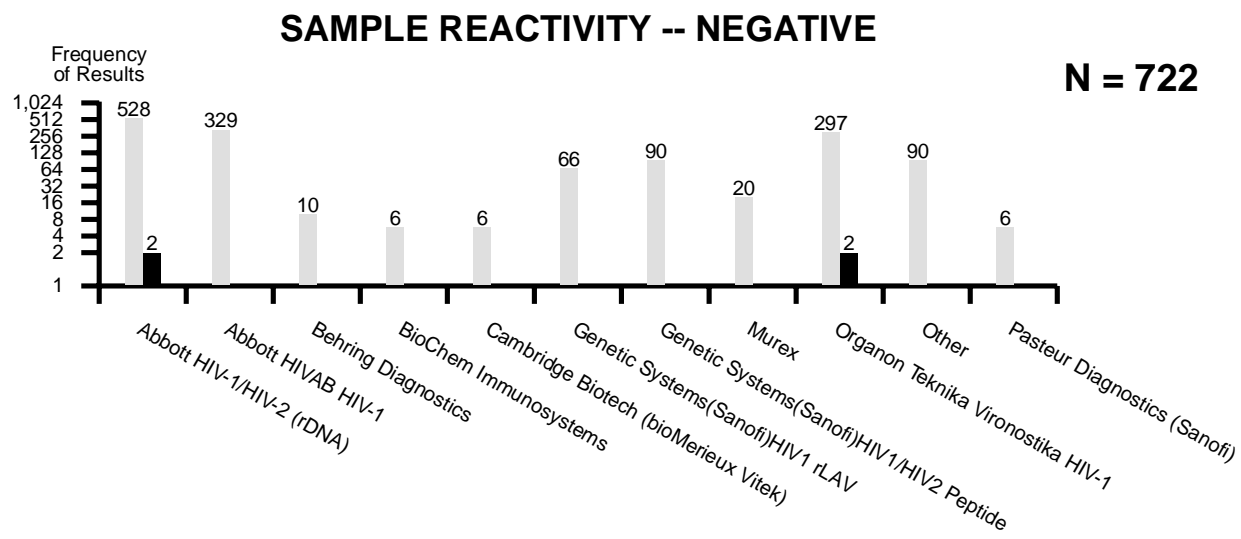
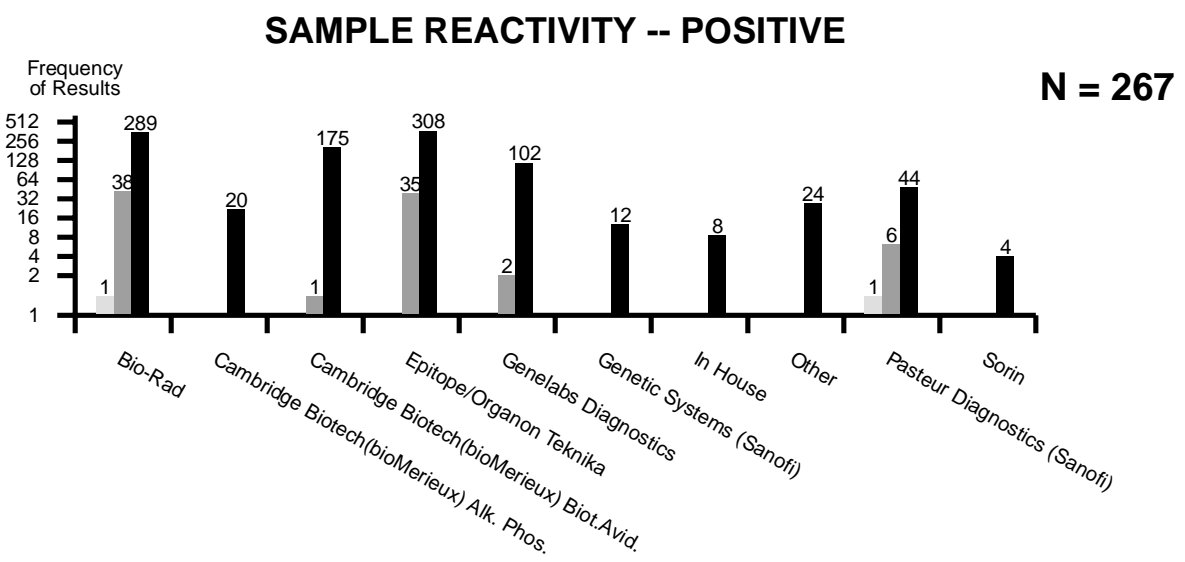
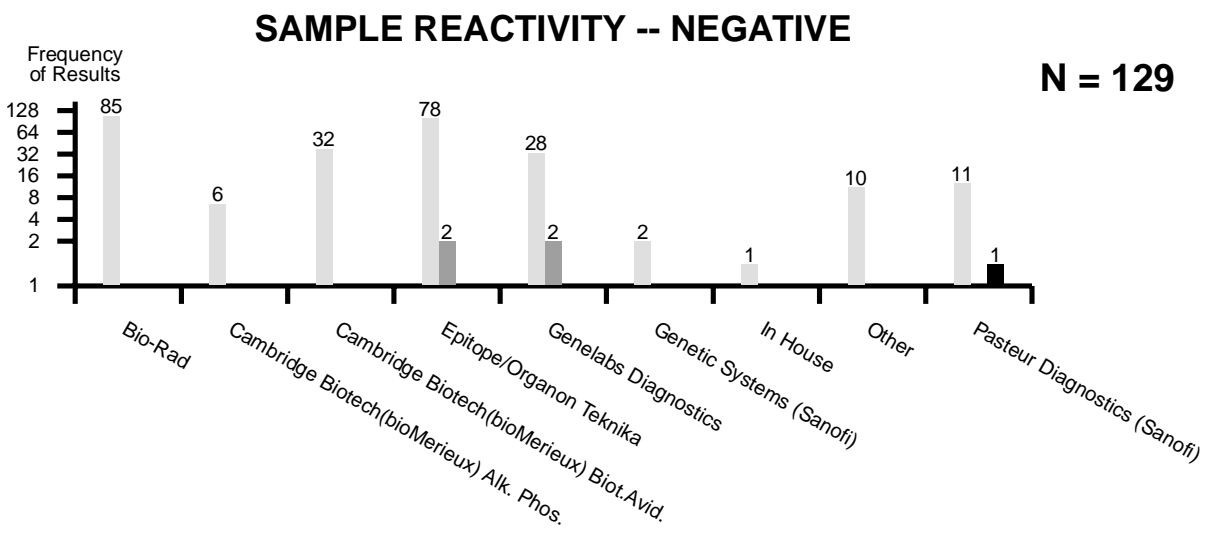


Figure 5. Enzyme immunoassay HIV-1 antibody test results, by kit manufacturer, reported by participant laboratories for the January 25, 1999 shipment



Test Result Interpretations
 Non-Reactive
 Reactive

Figure 6. Western blot HIV-1 antibody test results, by kit manufacturer, reported by participant laboratories for the January 25, 1999 shipment

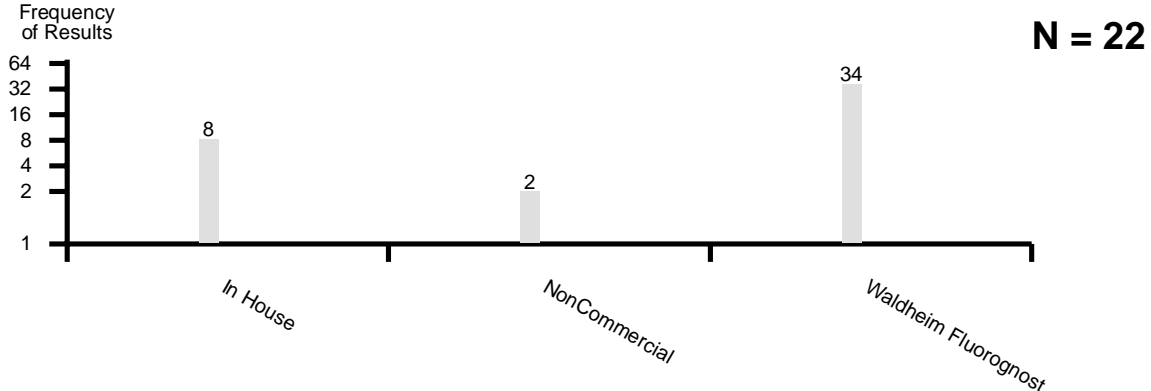


Test Result Interpretations

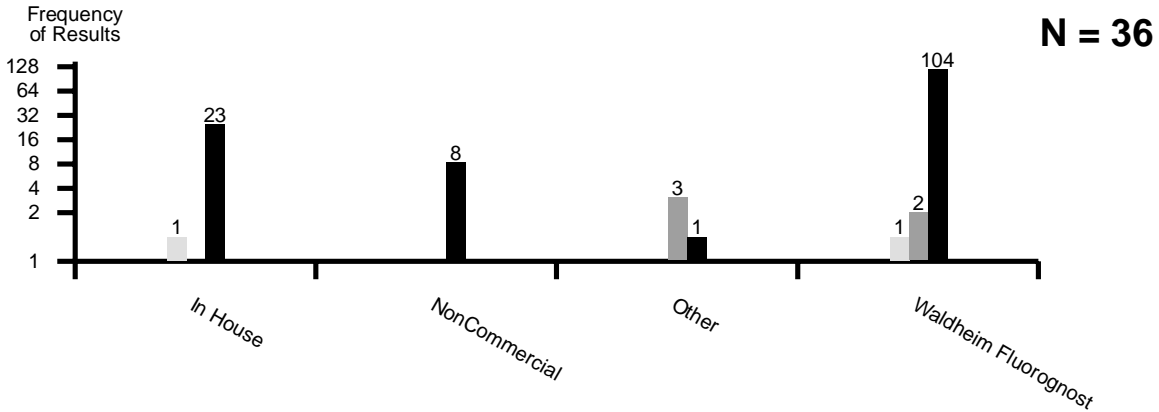
Non-Reactive
 Indeterminate
 Reactive

Figure 7. Indirect immunofluorescence HIV-1 antibody test results, by kit manufacturer, reported by participant laboratories for the January 25, 1999 shipment

SAMPLE REACTIVITY -- NEGATIVE



SAMPLE REACTIVITY -- POSITIVE



Test Result Interpretations

- Non-Reactive
- Indeterminate
- Reactive

Figure 8. Western blot HIV-1 antibody band patterns reported to CDC by participant laboratories for the January 25, 1999 shipment

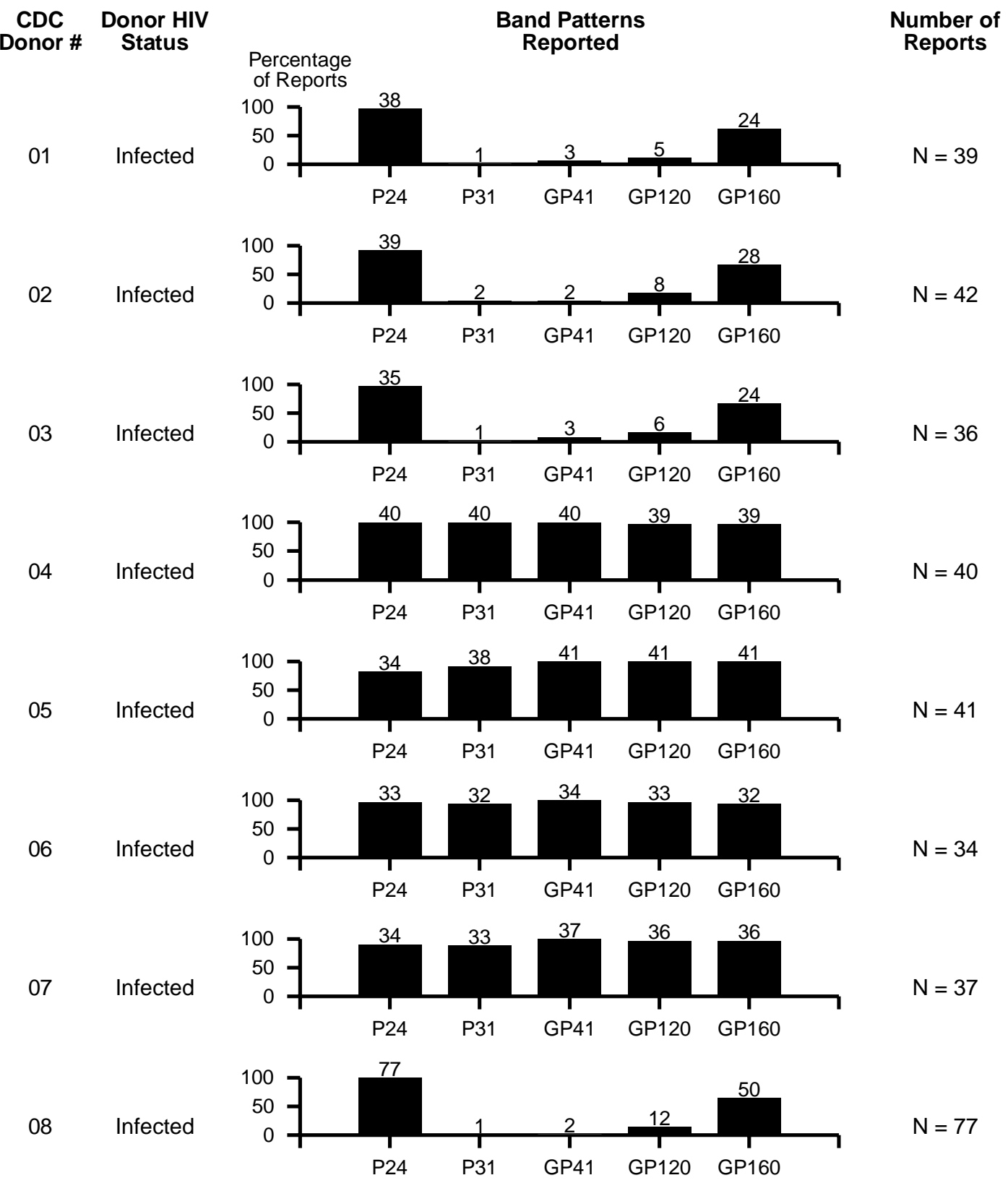


Figure 8. Western blot HIV-1 antibody band patterns reported to CDC by participant laboratories for the January 25, 1999 shipment

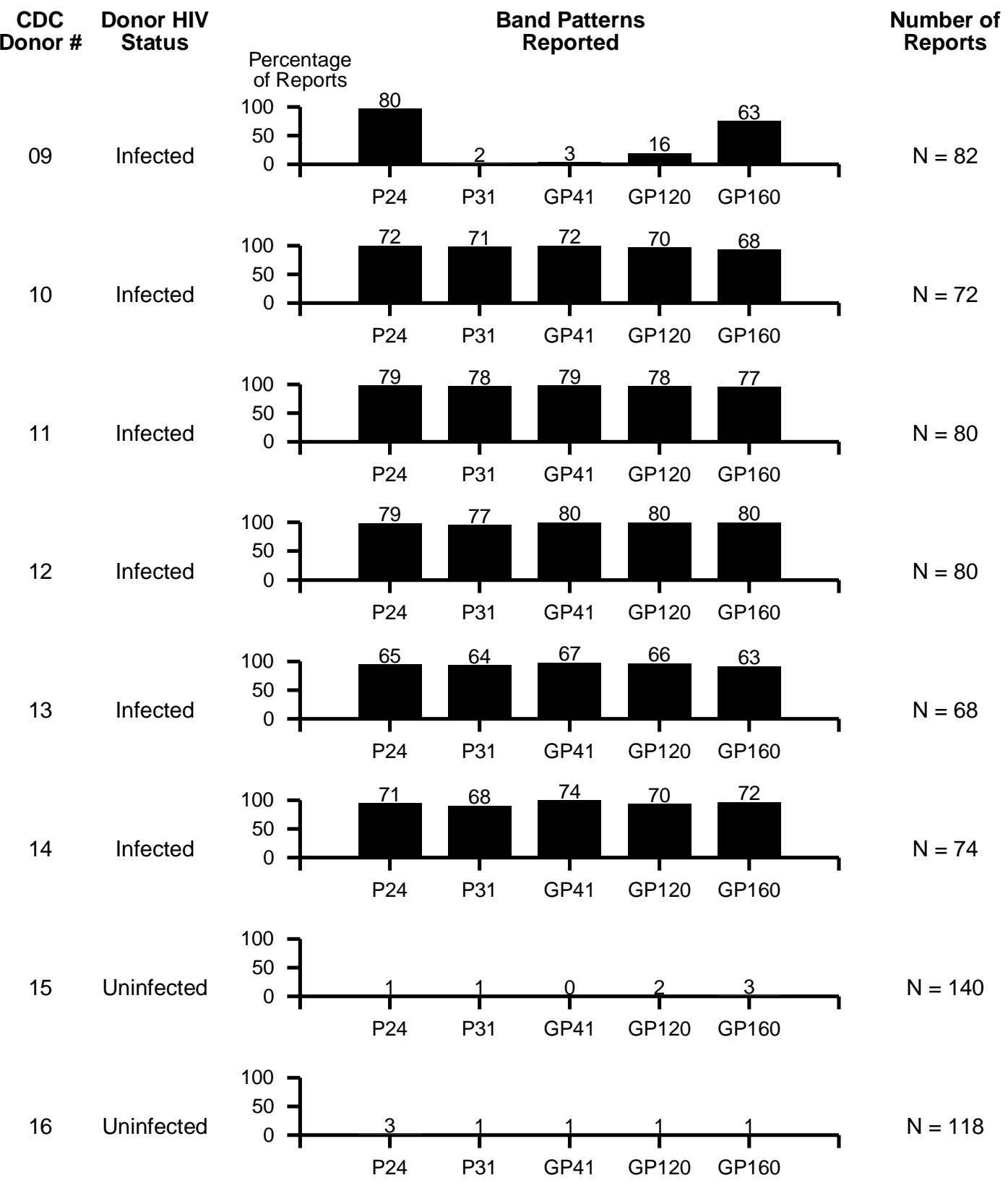


Figure 8. Western blot HIV-1 antibody band patterns reported to CDC by participant laboratories for the January 25, 1999 shipment

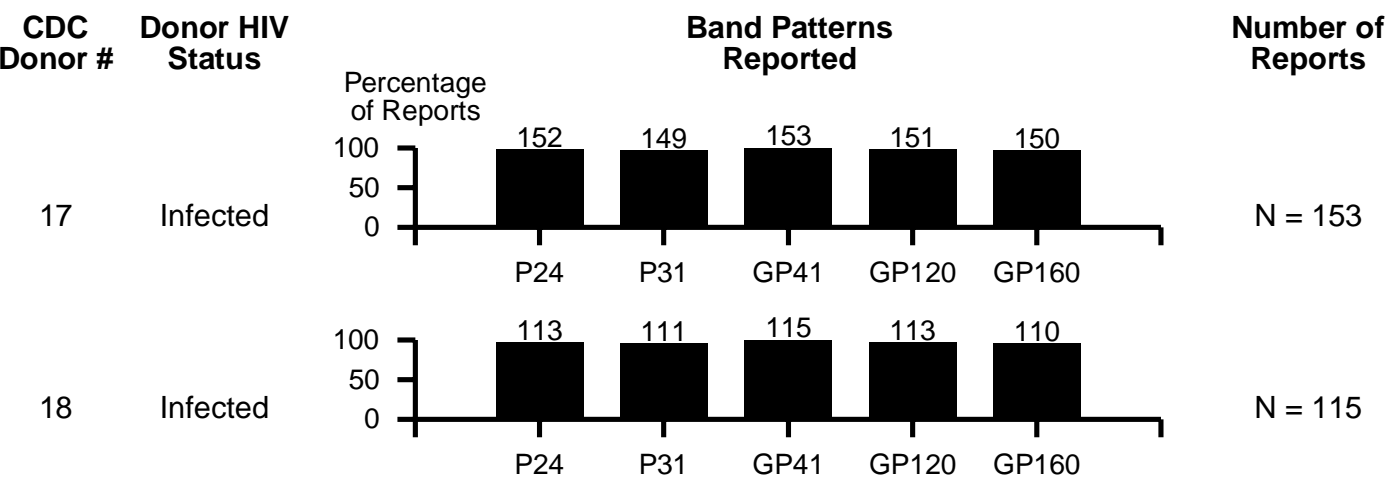


Figure 9. Fluorescence intensity patterns, of HIV-1-infected cells, for IIF results reported to CDC by participant laboratories for the January 25, 1999 shipment

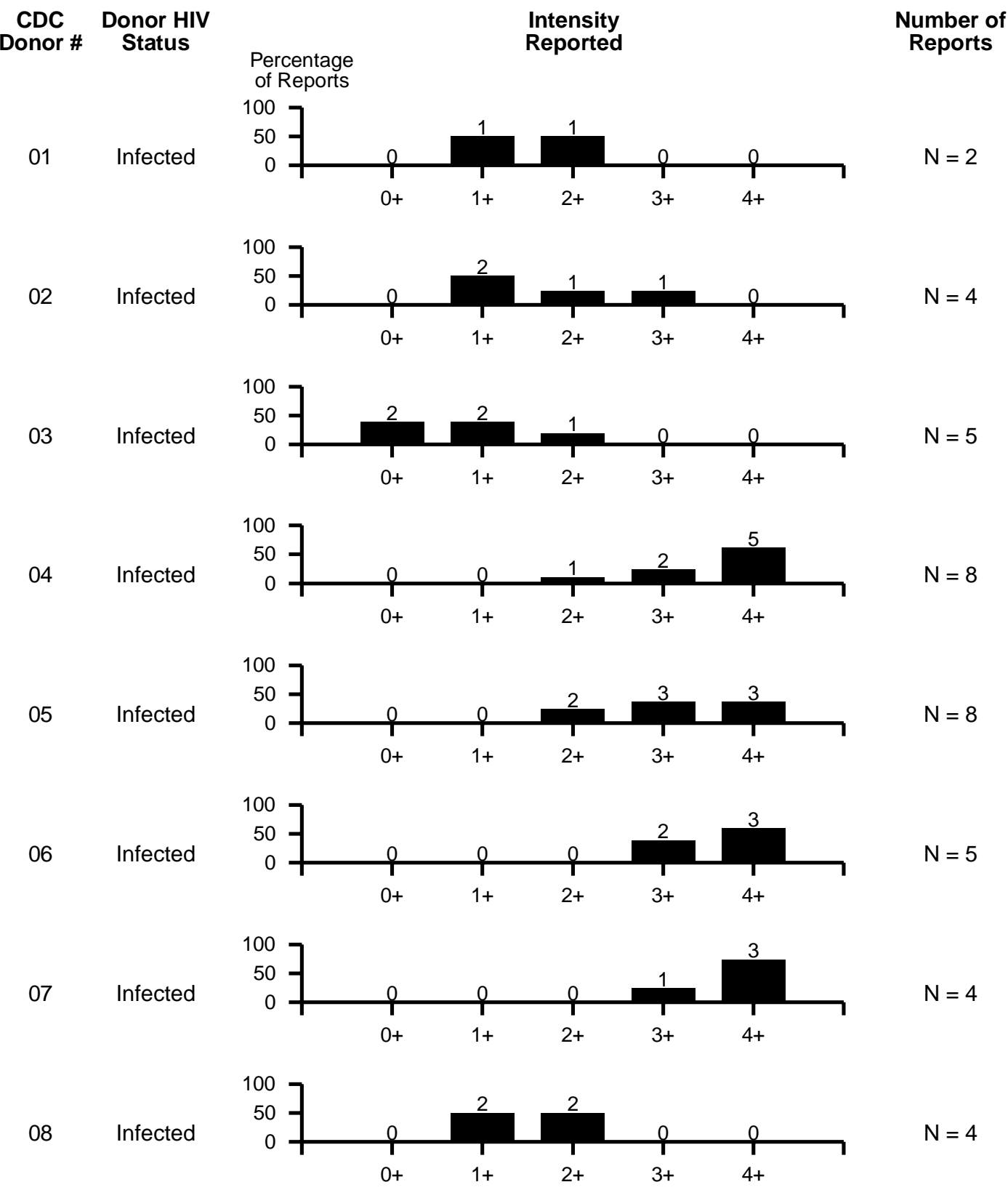


Figure 9. Fluorescence intensity patterns, of HIV-1-infected cells, for IIF results reported to CDC by participant laboratories for the January 25, 1999 shipment

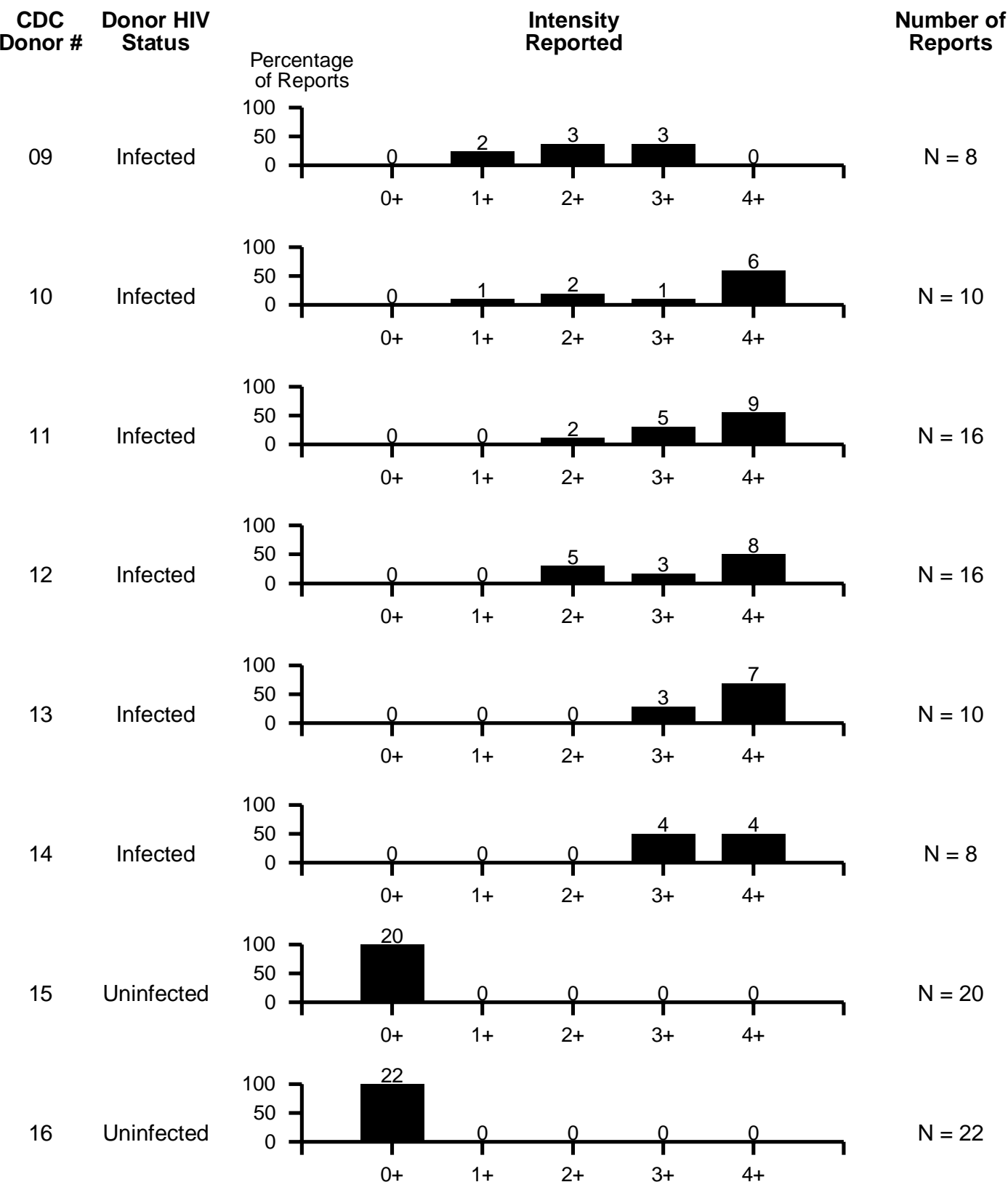


Figure 9. Fluorescence intensity patterns, of HIV-1-infected cells, for IIF results reported to CDC by participant laboratories for the January 25, 1999 shipment

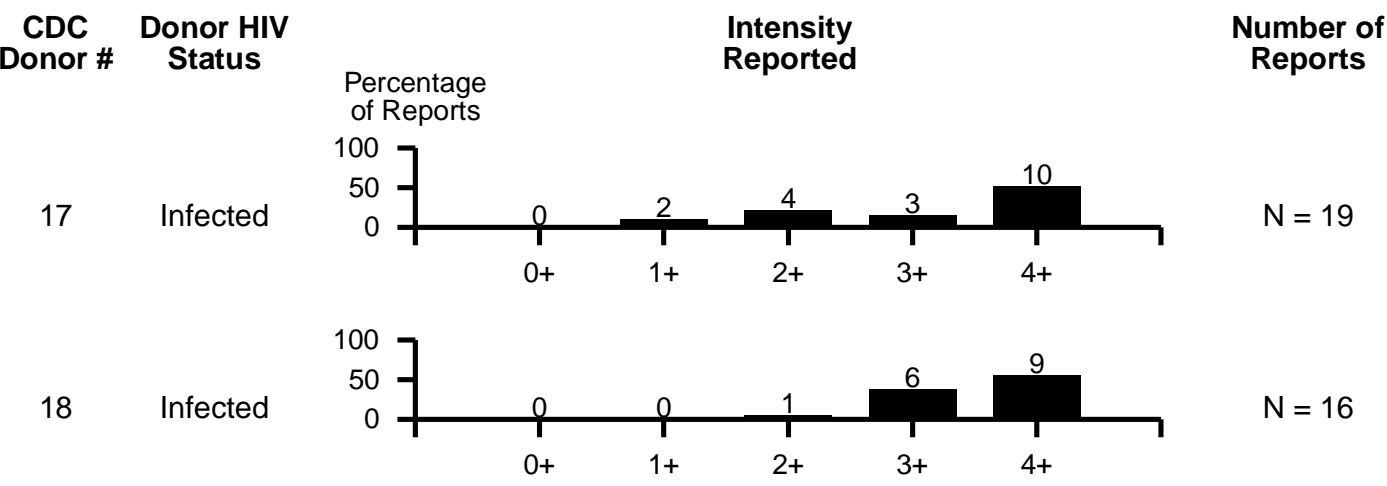
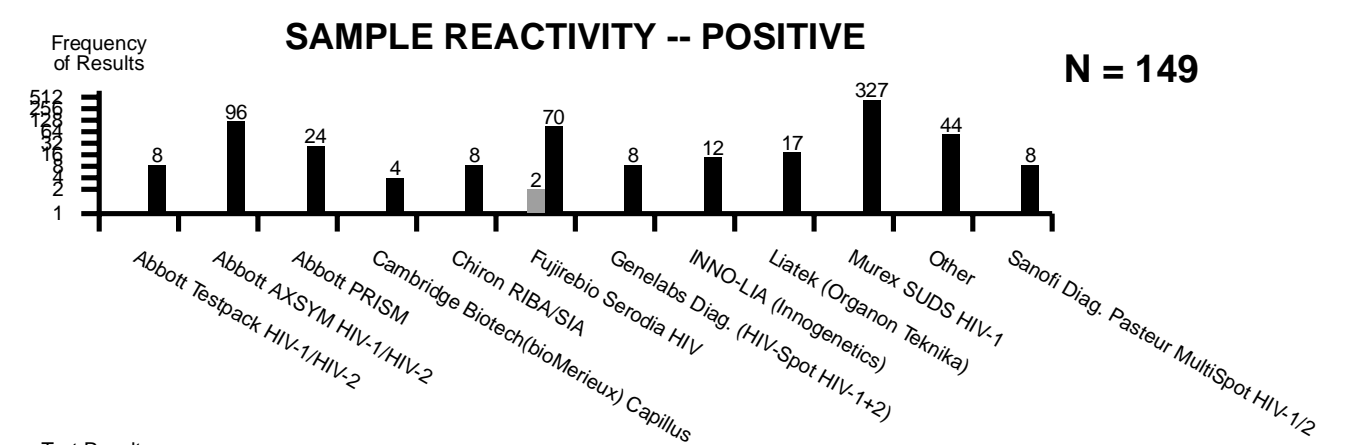
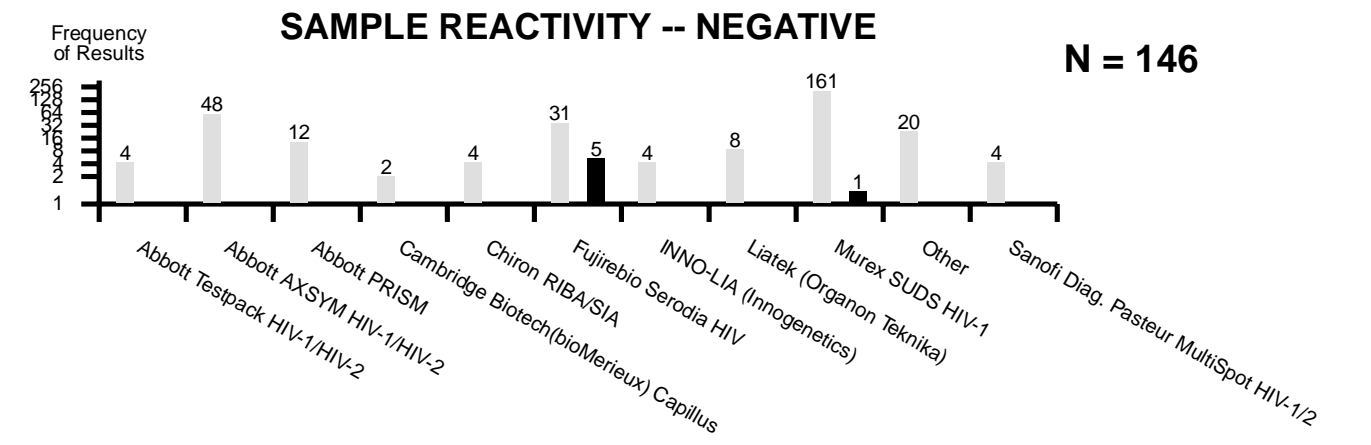
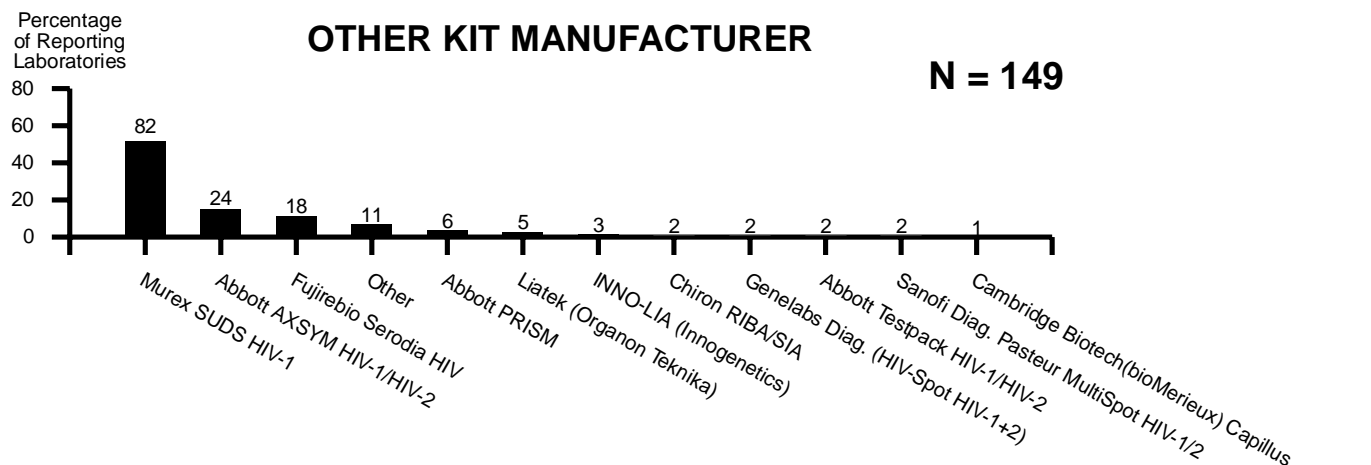


Figure 10. Types of 'Other' HIV antibody test kits used and results reported by participant laboratories to the CDC for the January 25, 1999 shipment



Test Result Interpretations

Non-Reactive
 Indeterminate
 Reactive