

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

**Figures Used to Summarize the  
Candidate Reference Laboratory Results  
for the January 5, 1998 Shipment**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**Public Health Service**

**Centers for Disease Control and Prevention**

**Public Health Practice Program Office**

**Division of Laboratory Systems**

**Atlanta, Georgia 30333**



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

Report of the January 5, 1998 Human Immunodeficiency virus type I (HIV-1) Antibody Performance Evaluation Sample Testing Results Provided by Candidate Reference 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 5, 1998 Candidate Reference Laboratory Shipment**

**Table 1**

Label Number	CDC Donor Number	CDC Result <sup>2</sup>	Laboratory Interpretation <sup>1</sup>			
			EIA		WB	IIF
			INIT. <sup>3</sup>	FINAL <sup>4</sup>		
01	06	Positive	—	—	—	—
02	08	Positive	—	—	—	—
03	11	Positive	—	—	—	—
04	15	Negative	—	—	—	—
05	03	Positive	—	—	—	—
06	17	Positive	—	—	—	—
07	09	Positive	—	—	—	—
08	07	Positive	—	—	—	—
09	12	Positive	—	—	—	—
10	13	Positive	—	—	—	—
11	02	Positive	—	—	—	—
12	18	Positive	—	—	—	—
13	10	Positive	—	—	—	—
14	04	Positive	—	—	—	—
15	01	Positive	—	—	—	—
16	14	Positive	—	—	—	—
17	16	Negative	—	—	—	—
18	05	Positive	—	—	—	—

<sup>1</sup> Laboratory Interpretation space (to be completed by candidate reference laboratory) provided to facilitate comparison of candidate reference laboratory result with CDC result.

<sup>2</sup> 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), and employing the WB interpretive criteria of the Association of State and Territorial Public Health Laboratory Directors/CDC (ASTPHLD/CDC).

<sup>3</sup> Initial EIA interpretation

<sup>4</sup> 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 5, 1998 Candidate Reference Laboratory Panel Samples**

Label Laboratory Number	CDC Donor		CDC Western Blot Test Results		WB Test Kit	CDC
	Number	Specific WB Bands Detected <sup>1</sup>	Manufacturer	Interpretation <sup>2</sup>		
01	06	18,24,55,160 17,24,55,66,120,160 18,24,160	BioRad Cambridge Biotech* Epitope/Organon	Positive Positive Positive		
02	08	24,55,160 24,160 24	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Indeterminate		
03	11	18,24,55,160 17,24,160 24	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Indeterminate		
04	15	No Bands	All Manufacturers	Negative		
05	03	18,24,32,55,65,160 17,24,31,41,51,55,66,120,160 24,51,55,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
06	17	18,24,32,41,51,55,65,120,160 17,24,31,41,51,55,66,120,160 18,24,31,41,51,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
07	09	18,24,55,160 17,24,160 24	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Indeterminate		
08	07	24,41,55,65,160 24,51,66,120,160 24,51,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
09	12	18,24,32,41,55,65,160 24,41,51,55,66,120,160 24,51,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
10	13	24,55,160 24,120,160 24	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Indeterminate		
11	02	18,24,32,41,55,65,120,160 24,31,41,51,66,120,160 24,31,41,51,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
12	18	18,24,32,41,51,55,65,120,160 17,24,31,41,51,55,66,120,160 24,31,41,51,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
13	10	24,32,41,51,55,65,120,160 24,31,41,51,66,120,160 24,31,41,51,65,120,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
14	04	24,41,55,160 24,160 24,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
15	01	18,24,55,160 24,51,66,120,160 24,51,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
16	14	18,24,55,65,160 24,41,51,55,66,120,160 24,65,160	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Positive		
17	16	No Bands	All Manufacturers	Negative		
18	05	24,55,160 24,160 24	BioRad Cambridge Biotech Epitope/Organon	Positive Positive Indeterminate		

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

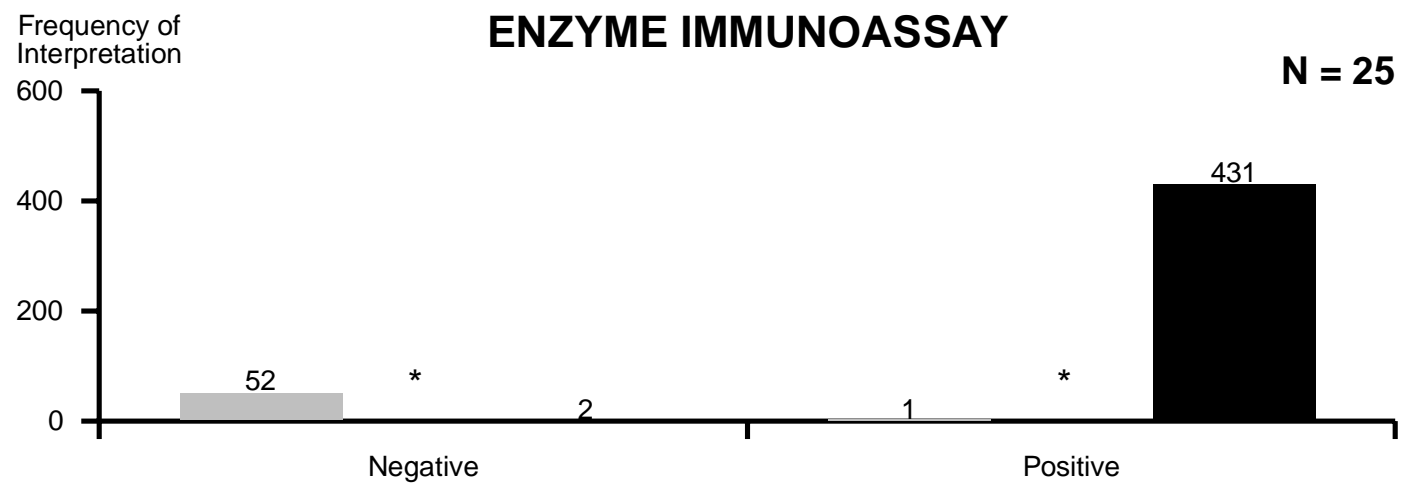
<sup>2</sup> The CDC interpretation is consistent with the manufacturer's criteria for interpretation of WB results.

\* bioMerieux Vitek/Cambridge Biotech

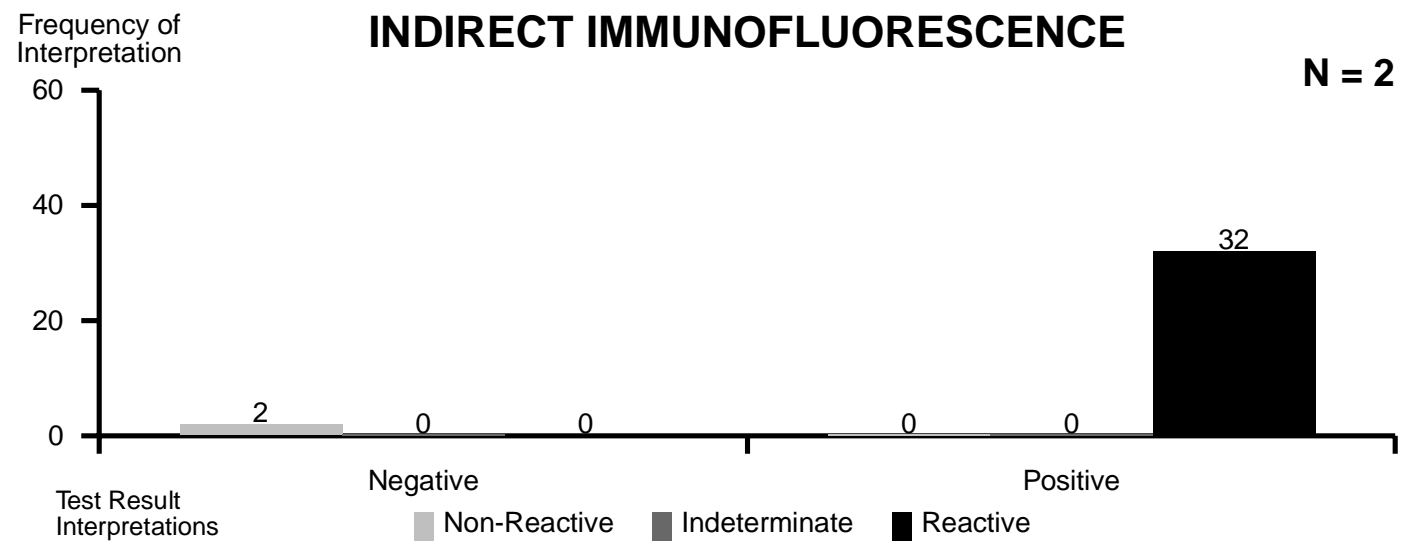
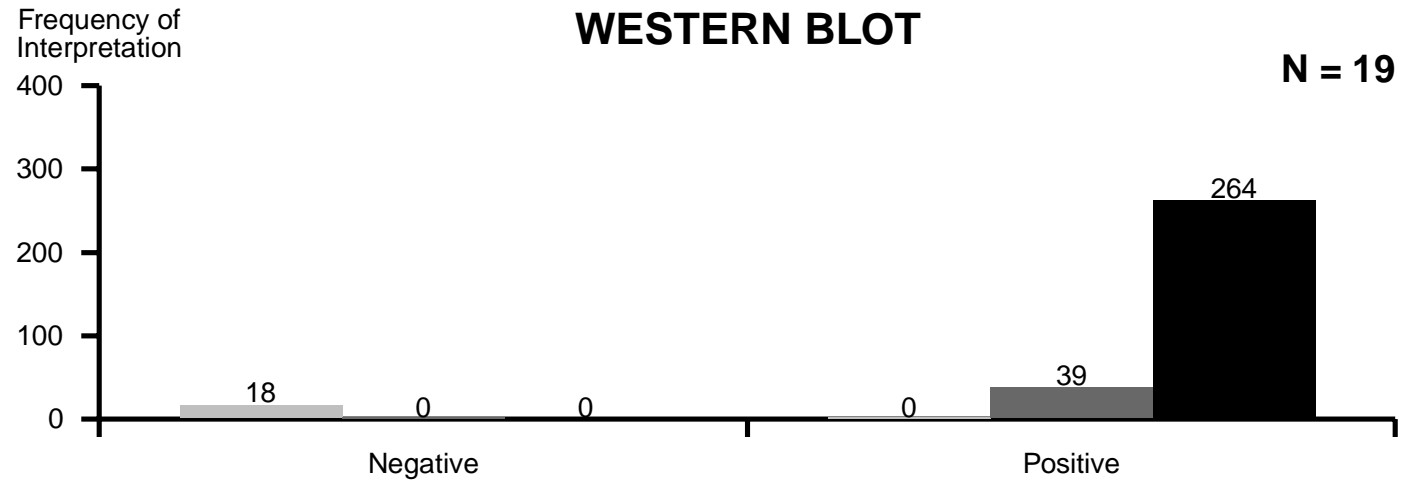
## **SUPPLEMENTAL INFORMATION FOR COMPREHENDING THE NUMBERS USED TO LABEL FIGURES IN THIS REPORT**

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, 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.

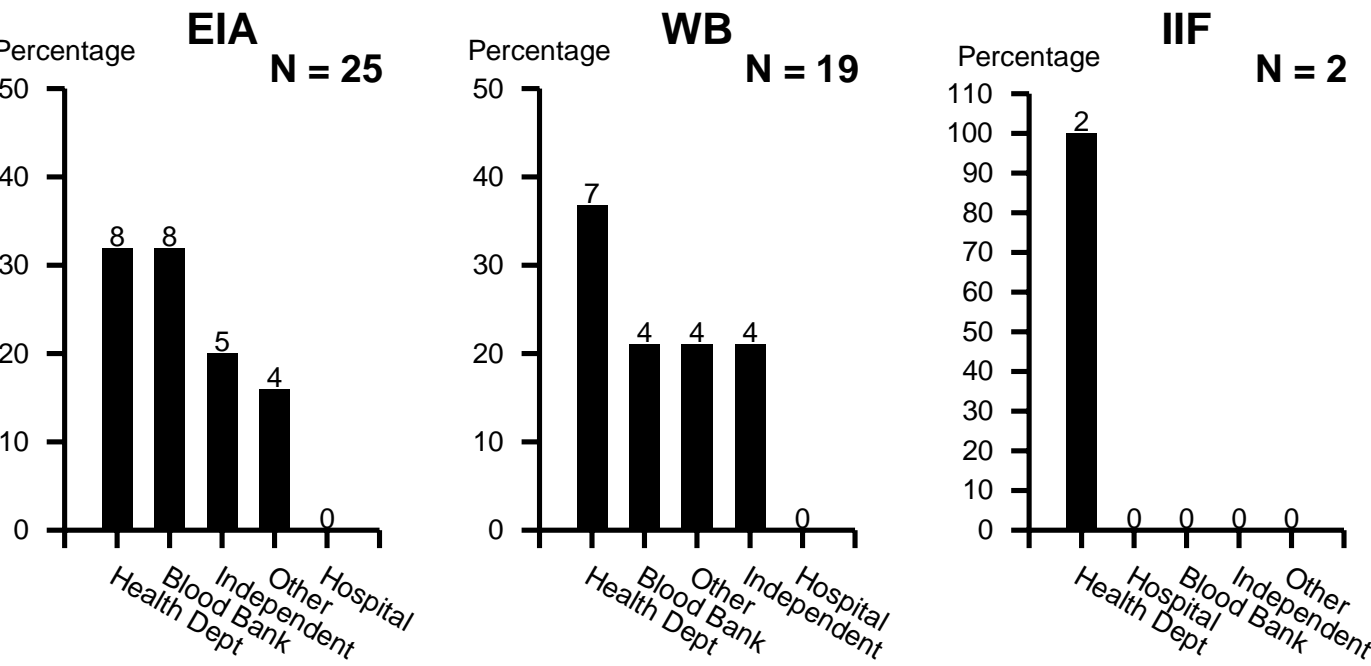
**Figure 1. Frequency of HIV-1 antibody test result interpretations, by sample type (reactivity), for enzyme immunoassay (EIA), Western blot (WB), and indirect immunofluorescence (IIF), reported by reference laboratories for the January 5, 1998 shipment**



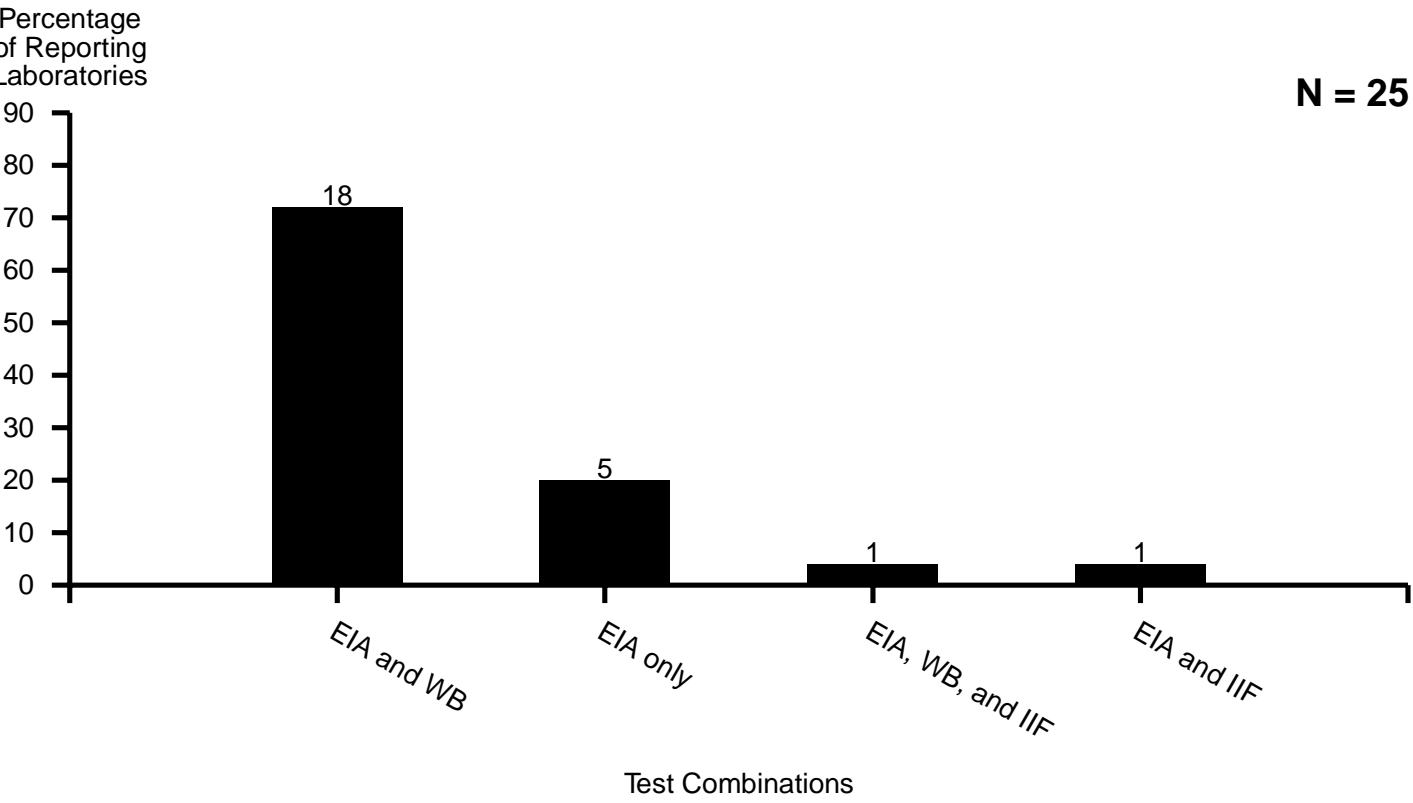
\* = Indeterminate is not an EIA interpretation option; these areas have been left blank



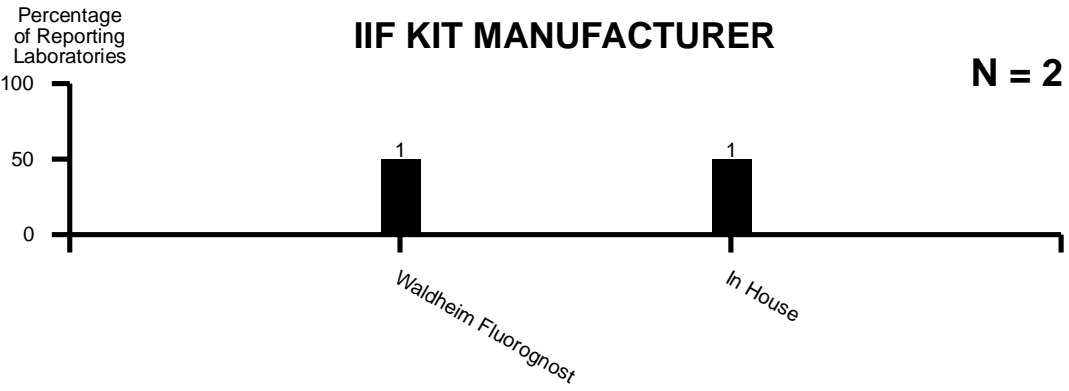
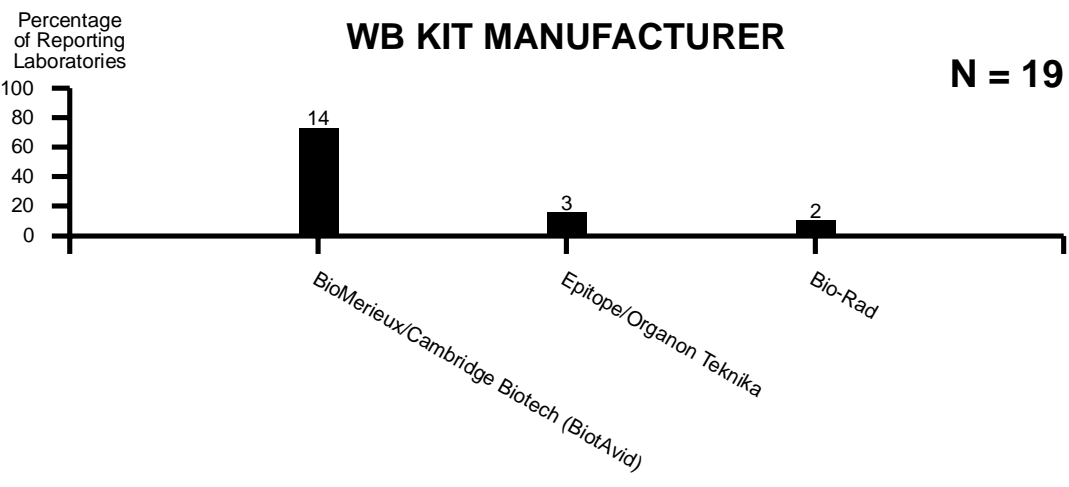
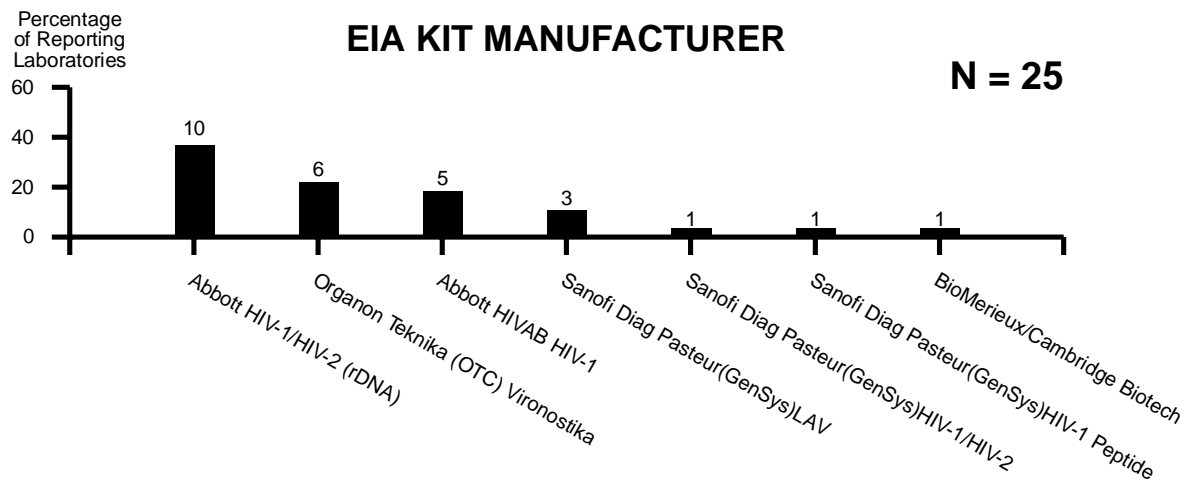
**Figure 2. Percentage of HIV-1 reference laboratories, by laboratory type, that reported EIA, WB, and IIF results to the CDC for the January 5, 1998 shipment**



**Figure 3. Combination of HIV-1 antibody tests reported by reference laboratories for the January 5, 1998 shipment**



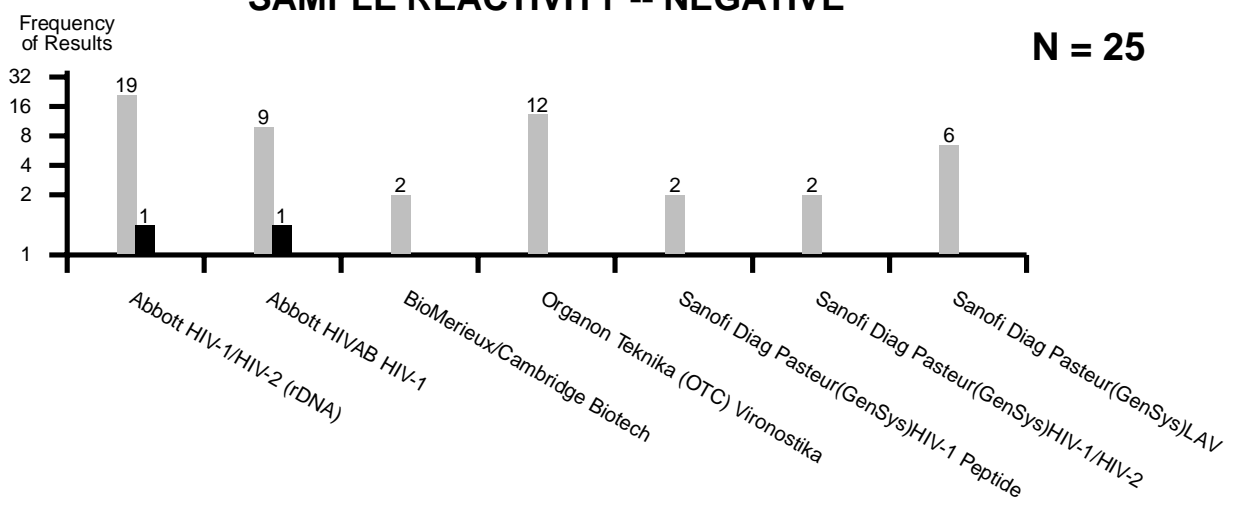
**Figure 4. Types of HIV-1 antibody test kits used for enzyme immunoassay, Western blot, and indirect immunofluorescence, as reported by reference laboratories to the CDC for the January 5, 1998 shipment**



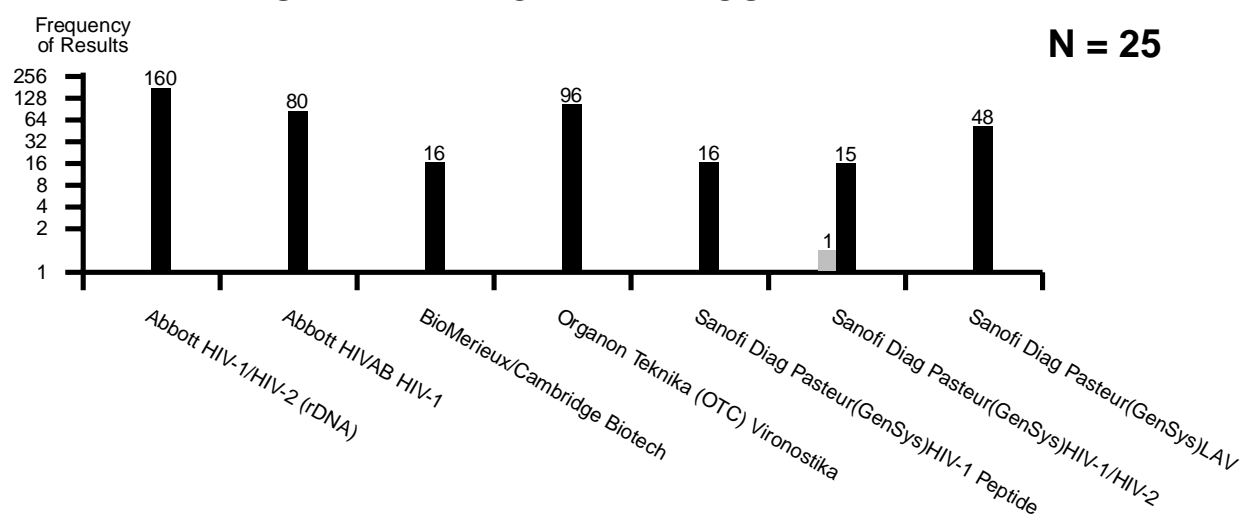


**Figure 5. Enzyme immunoassay HIV-1 antibody test results, by kit manufacturer, reported by reference laboratories for the January 5, 1998 shipment**

**SAMPLE REACTIVITY -- NEGATIVE**



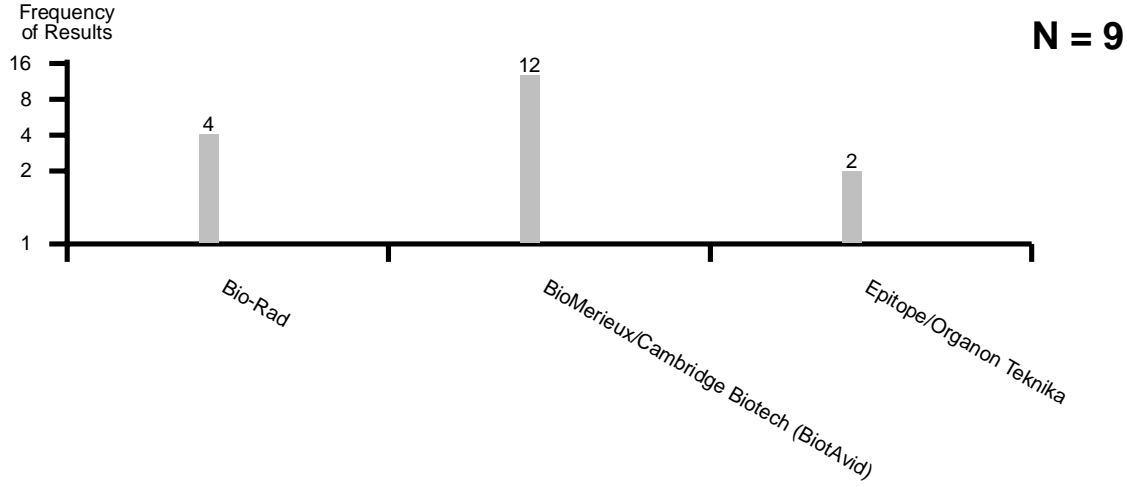
**SAMPLE REACTIVITY -- POSITIVE**



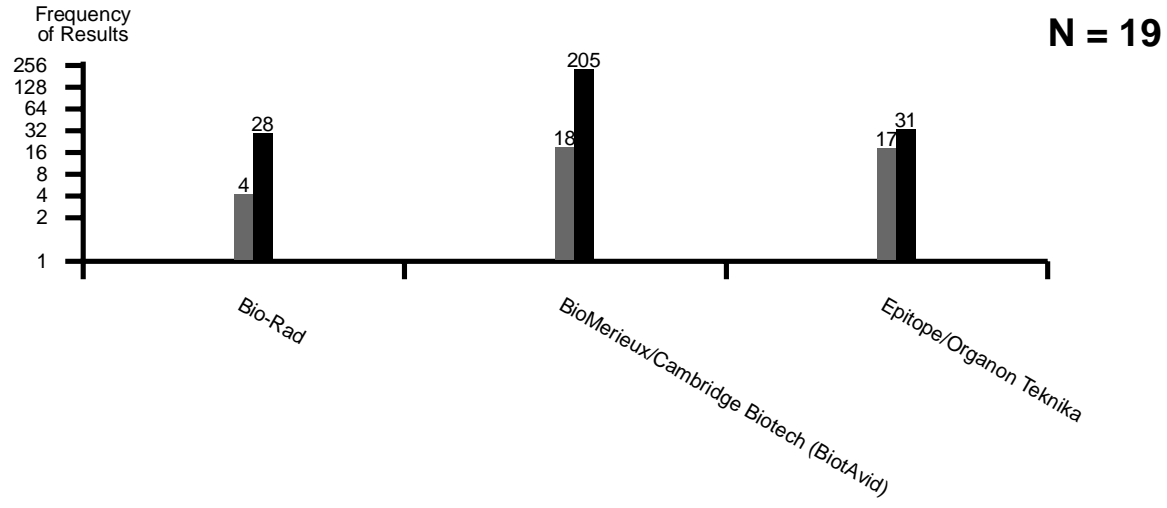
Test Result Interpretations  
 Non-Reactive  Reactive

**Figure 6. Western blot HIV-1 antibody test results, by kit manufacturer, reported by reference laboratories for the January 5, 1998 shipment**

**SAMPLE REACTIVITY -- NEGATIVE**



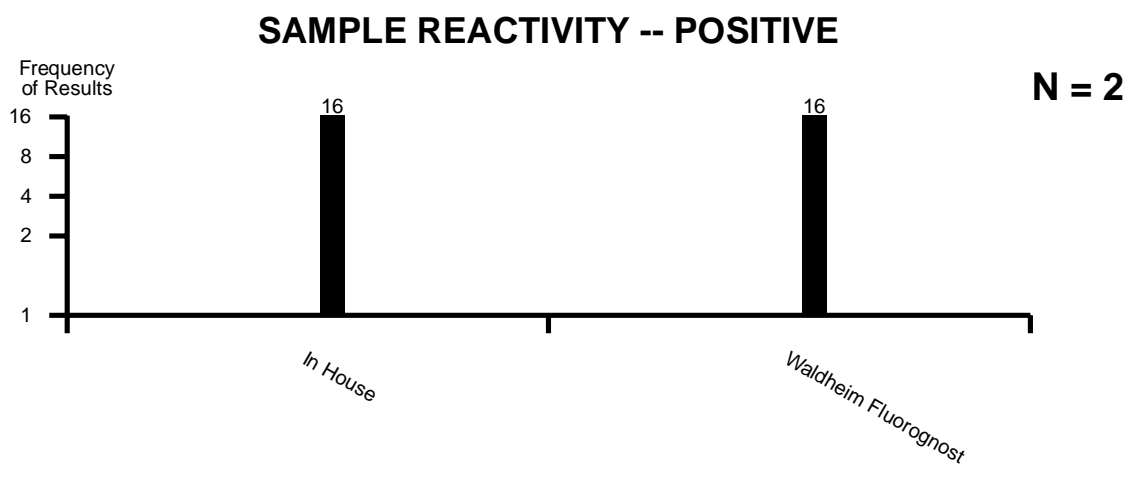
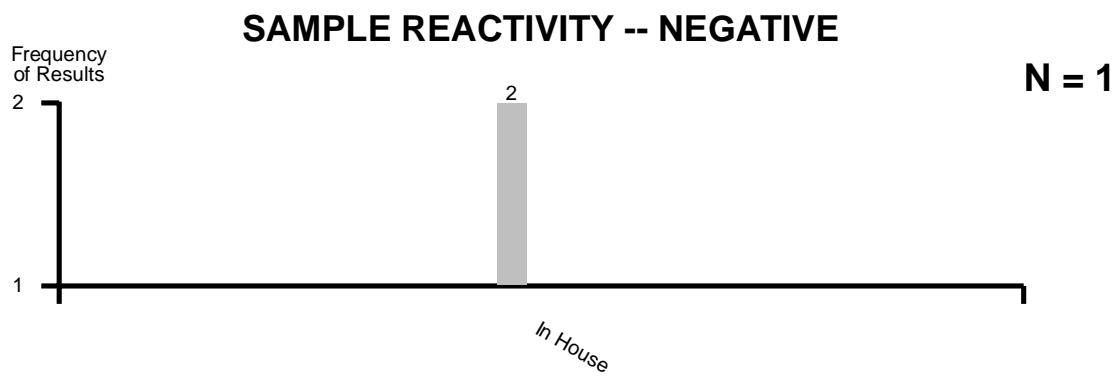
**SAMPLE REACTIVITY -- POSITIVE**



Test Result Interpretations

- Non-Reactive
- Indeterminate
- Reactive

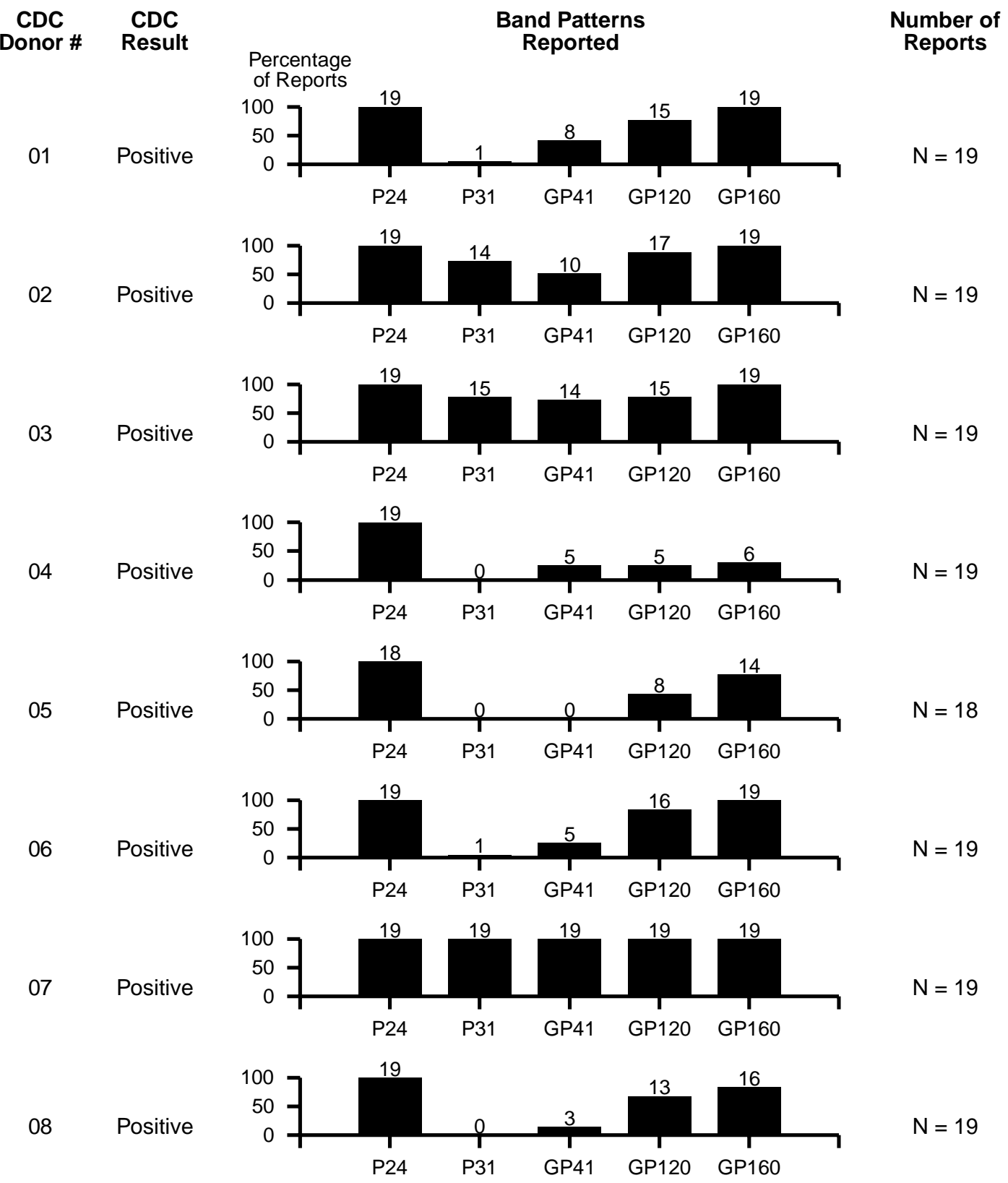
**Figure 7. Indirect immunofluorescence HIV-1 antibody test results, by kit manufacturer, reported by reference laboratories for the January 5, 1998 shipment**



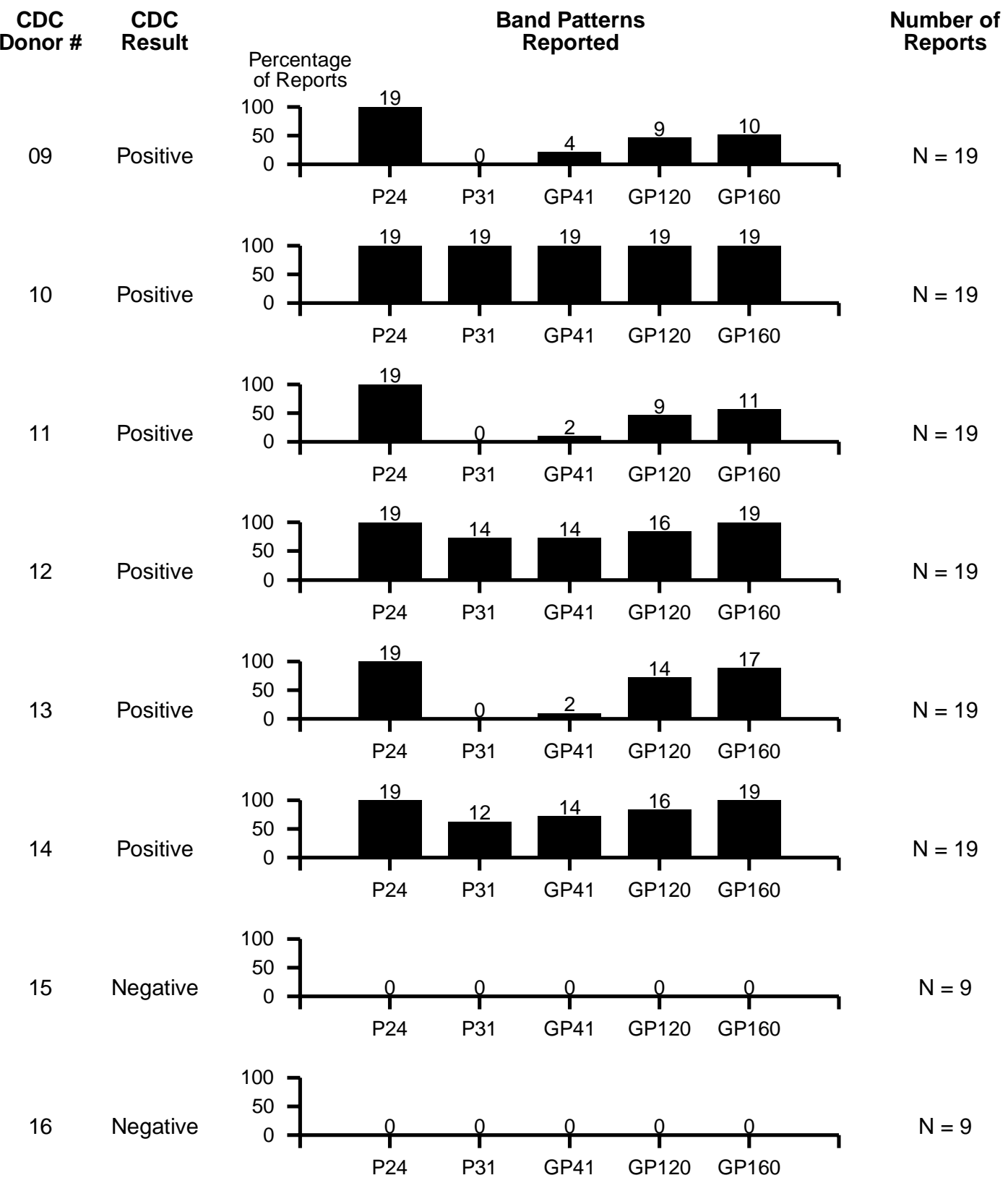
Test Result Interpretations

- Non-Reactive
- Indeterminate
- Reactive

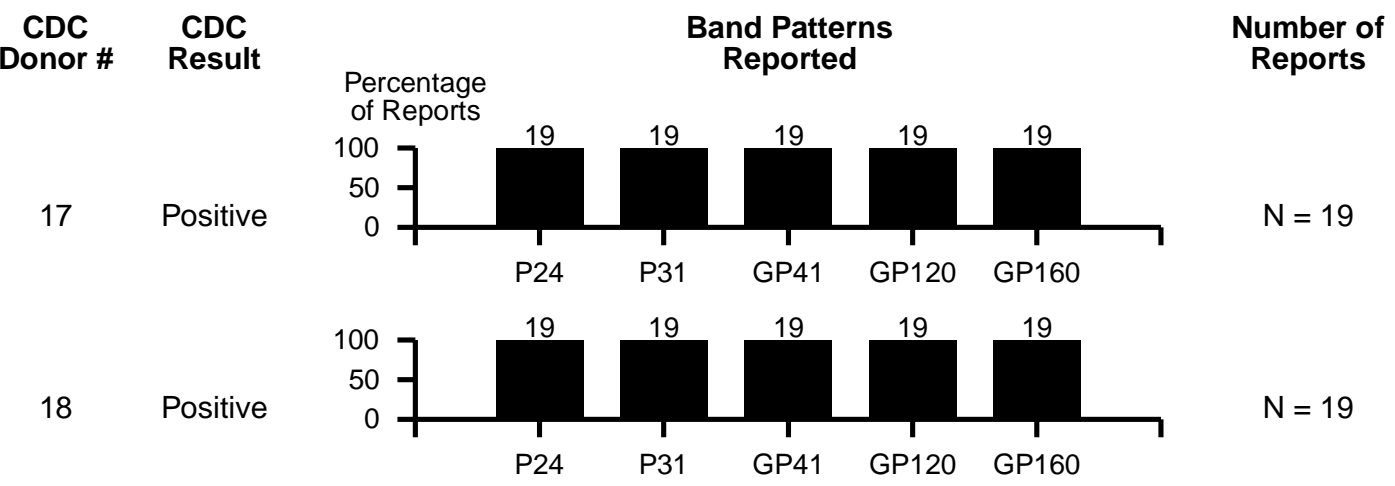
**Figure 8. Western blot HIV-1 antibody band patterns reported to CDC by reference laboratories for the January 5, 1998 shipment**



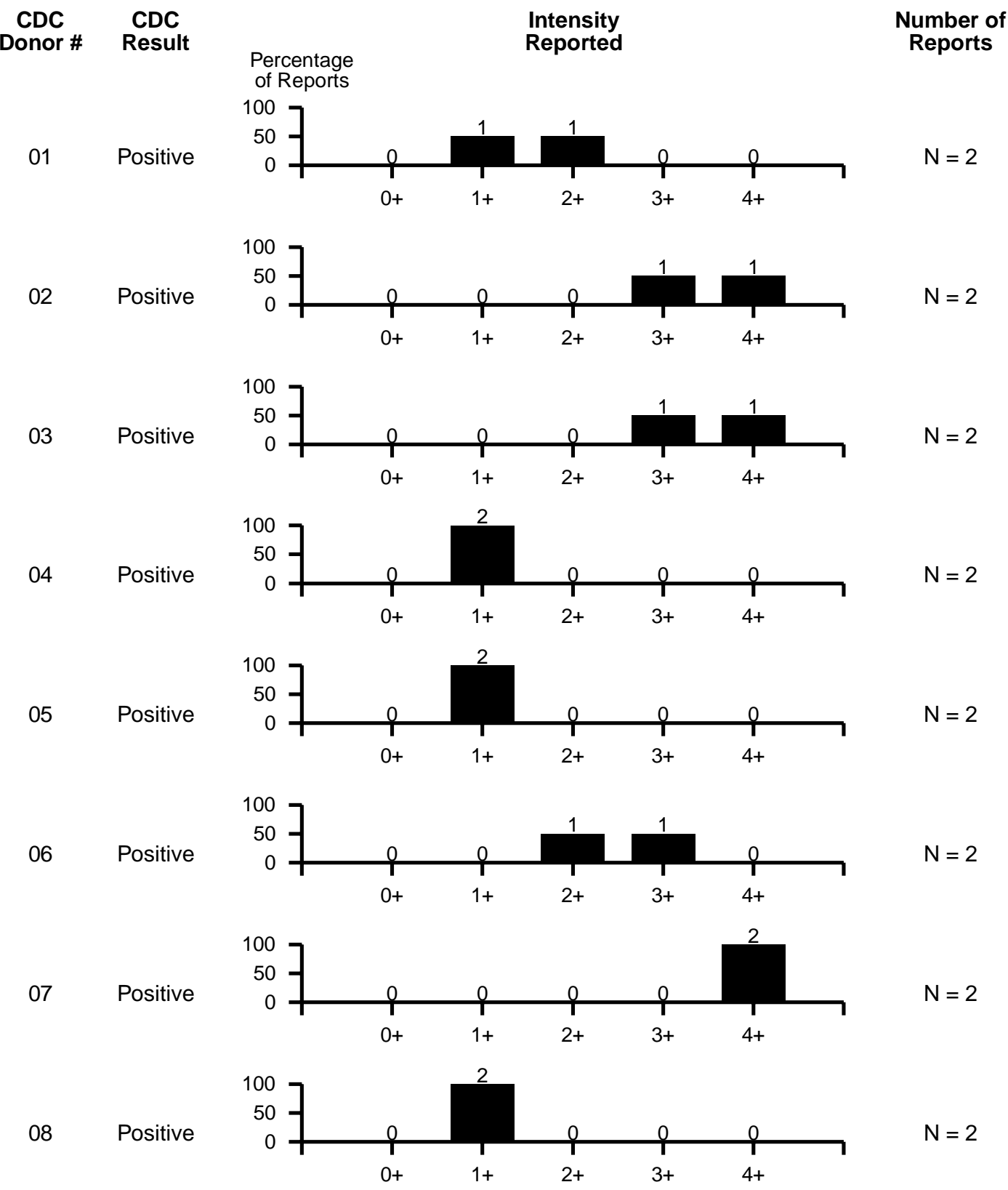
**Figure 8. Western blot HIV-1 antibody band patterns reported to CDC by reference laboratories for the January 5, 1998 shipment**



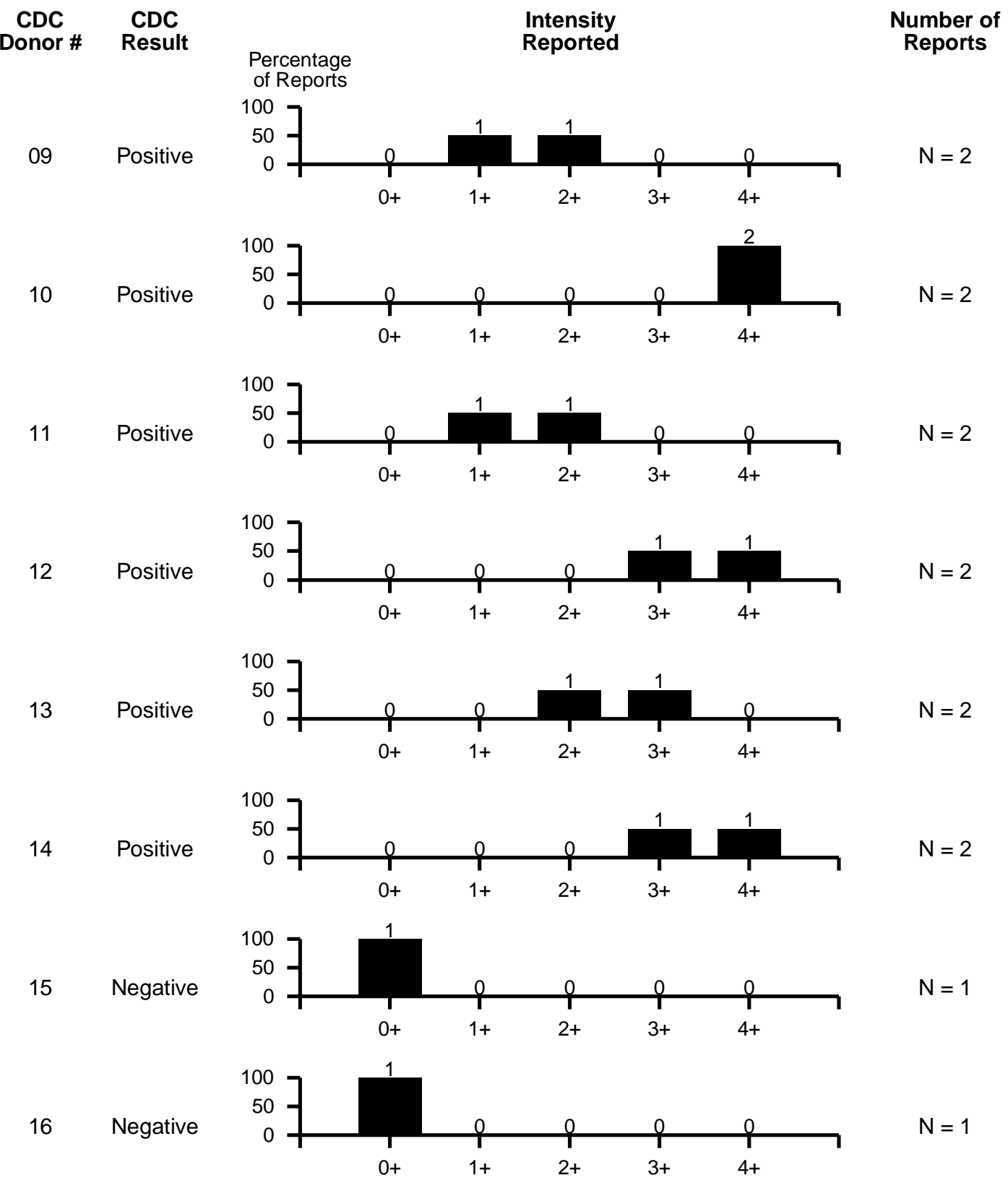
**Figure 8. Western blot HIV-1 antibody band patterns reported to CDC by reference laboratories for the January 5, 1998 shipment**



**Figure 9. Fluorescence intensity patterns, of HIV-1-infected cells, for IIF results reported to CDC by reference laboratories for the January 5, 1998 shipment**

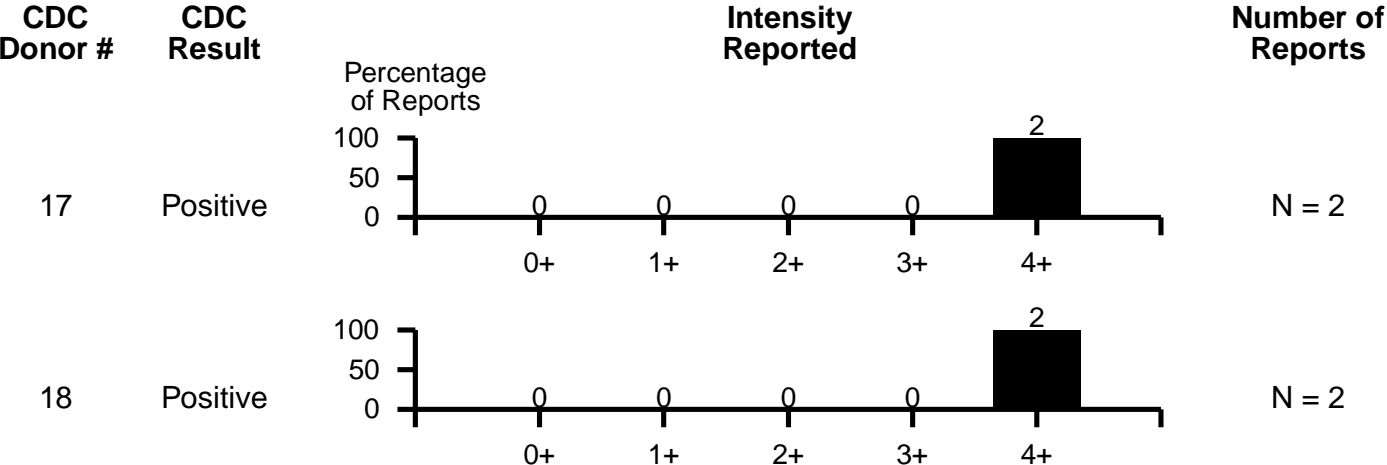


**Figure 9. Fluorescence intensity patterns, of HIV-1-infected cells, for IIF results reported to CDC by reference laboratories for the January 5, 1998 shipment**





**Figure 9. Fluorescence intensity patterns, of HIV-1-infected cells, for IIF results reported to CDC by reference laboratories for the January 5, 1998 shipment**



**Figure 10. Types of 'Other' HIV antibody test kits used and results reported by reference laboratories to the CDC for the January 5, 1998 shipment**

