

**Supplemental Table 2.** Test Results from 38 Recommended Algorithm-Defined Ag/Ab False-Reactive Specimens.

| Specimen No. | ARC (S/CO)   | GS (S/CO)   | CHIV (S/CO)  | BPC (Index) | DC (Ag/Ab)    | Geenius interpretation v1.1         | Repeat Geenius interpretation v1.1 | Apt-Qual        | 1:5 Roche VL* |
|--------------|--------------|-------------|--------------|-------------|---------------|-------------------------------------|------------------------------------|-----------------|---------------|
| 1            | <b>11.6</b>  | <b>6.76</b> | <b>12.0</b>  | <b>163</b>  | Ag neg/Ab neg | HIV-1<br>Indeterminate              | n/d                                | Negative        | TND           |
| 2            | <b>8.92</b>  | <b>13.0</b> | <b>12.0</b>  | <b>24.9</b> | Ag neg/Ab pos | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 3            | 3.68         | 0.285       | 0.0771       | 0.03        | Ag neg/Ab neg | HIV-2                               | HIV-2                              | Negative        | TND           |
| 4            | 3.54         | 0.245       | 0.0645       | 0.06        | Ag neg/Ab neg | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 5            | <b>3.44</b>  | <b>8.73</b> | <b>0.441</b> | <b>0.33</b> | Ag neg/Ab neg | <b>HIV Negative</b>                 | <b>HIV Negative</b>                | <b>Negative</b> | <b>TND</b>    |
| 6            | 2.42         | 0.321       | 0.0679       | 0.07        | Ag neg/Ab neg | HIV-2                               | HIV Negative                       | Negative        | TND           |
| 7            | 2.00         | 0.202       | 0.0493       | 0.11        | Ag neg/Ab neg | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 8            | 1.89         | 0.514       | 0.990        | 0.7         | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 9            | 1.77         | 0.204       | 0            | 0.08        | Ag neg/Ab neg | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 10           | 1.64         | 0.175       | 0.102        | 0.04        | Ag neg/Ab neg | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 11           | 1.43         | 0.195       | 0.0653       | 0.07        | Ag neg/Ab neg | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 12           | 1.12         | 0.211       | 0.0403       | 0.1         | Ag neg/Ab neg | HIV-2<br>Indeterminate <sup>†</sup> | HIV Negative                       | Negative        | TND           |
| 13           | 1.05         | 0.242       | 0.0688       | 0.05        | Ag neg/Ab neg | HIV Negative                        | HIV Negative                       | Negative        | TND           |
| 14           | 0.566        | 1.35        | 0            | 0.1         | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 15           | 0.521        | 1.60        | 0.159        | 0.06        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 16           | 0.313        | 0.1         | 1.05         | 0.22        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 17           | <b>0.229</b> | <b>0.1</b>  | <b>2.07</b>  | <b>3.49</b> | Ag neg/Ab neg | <b>HIV Negative</b>                 | <b>n/d</b>                         | <b>Negative</b> | <b>TND</b>    |
| 18           | 0.183        | 0.1         | 3.31         | 0.06        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 19           | 0.169        | 1.2         | 0.0865       | 0.09        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 20           | 0.168        | 0.1         | 1.14         | 0.07        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 21           | <b>0.167</b> | <b>0.19</b> | <b>1.95</b>  | <b>0.1</b>  | Ag pos/Ab pos | <b>HIV Negative</b>                 | <b>HIV Negative</b>                | <b>Negative</b> | <b>TND</b>    |
| 22           | 0.158        | 14.6        | 0.0789       | 0.05        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 23           | 0.153        | 0.1         | 0.168        | 8.5         | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |
| 24           | 0.134        | 15.6        | 0.097        | 0.08        | Ag neg/Ab neg | HIV Negative                        | n/d                                | Negative        | TND           |

|           |               |             |               |             |                      |                        |              |                 |            |
|-----------|---------------|-------------|---------------|-------------|----------------------|------------------------|--------------|-----------------|------------|
| 25        | 0.115         | 0.405       | 0.0587        | 7.15        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| 26        | 0.107         | 0.1         | 1.00          | 0.15        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| 27        | 0.107         | 0.1         | 0             | 17.4        | Ag neg/Ab neg        | HIV-2<br>Indeterminate | n/d          | Negative        | TND        |
| 28        | 0.107         | 0.1         | 0.127         | 1.24        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| 29        | 0.106         | 0.1         | 1.63          | 0.57        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| <b>30</b> | <b>0.103</b>  | <b>0.1</b>  | <b>1.59</b>   | <b>4.21</b> | <b>Ag neg/Ab neg</b> | <b>HIV Negative</b>    | <b>n/d</b>   | <b>Negative</b> | <b>TND</b> |
| 31        | 0.0986        | 15.6        | 0.242         | 0.05        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| 32        | 0.0983        | 0.272       | 0.217         | 1.6         | Ag neg/Ab neg        | HIV Negative           | HIV Negative | Negative        | TND        |
| <b>33</b> | <b>0.0862</b> | <b>1.64</b> | <b>0.875</b>  | <b>1.75</b> | <b>Ag neg/Ab neg</b> | <b>HIV Negative</b>    | <b>n/d</b>   | <b>Negative</b> | <b>TND</b> |
| 34        | 0.0758        | 0.1         | 0.0807        | >200        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| <b>35</b> | <b>0.0741</b> | <b>1.16</b> | <b>0.0852</b> | <b>0.01</b> | <b>Ag neg/Ab pos</b> | <b>HIV Negative</b>    | <b>n/d</b>   | <b>Negative</b> | <b>TND</b> |
| 36        | 0.0695        | 0.219       | 0.0369        | 56.6        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| 37        | 0.0623        | 0.1         | 1.97          | 0.1         | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |
| 38        | 0.0595        | 0.1         | 0.0929        | 4.65        | Ag neg/Ab neg        | HIV Negative           | n/d          | Negative        | TND        |

Abbreviations: ARC, Abbott ARCHITECT HIV Ag/Ab Combo; GS, Bio-Rad GS HIV Combo Ag/Ab EIA; CHIV, Siemens ADVIA Centaur HIV Ag/Ab Combo; BPC, Bio-Rad BioPlex 2200 HIV Ag-Ab; DC, Alere Determine HIV-1/2 Ag/Ab Combo; S/CO, signal to cutoff value; Apt-Qual, Aptima HIV-1 RNA Qualitative Assay; Roche, Roche COBAS AmpliPrep/ COBAS TaqMan HIV-1 Test; TND, target not detected; n/d, not done.

Bold text indicates specimen had false-reactive Ag/Ab results on more than 1 Ag/Ab test.

Note: only the initially reactive Ag/Ab screening results were used in this analysis because repeated Ag/Ab testing of initially reactive specimens was not performed for every specimen. Repeated Geenius tests are displayed for the subset of specimens for which the repeated test was done.

\*Roche viral load assay performed with off-label 1:5 dilution protocol; limit of detection (LOD) not measured.

† gp140 band only