

## Individual and Combination Rapid Test Results as Predictors of Western Blot Positivity

<i>Abstract Category:</i>	Performance of Point of Care Strategies Using Combinations of Rapid Tests
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### OBJECTIVE

To examine Western blot (WB) results for serum specimens submitted for confirmation of reactive OraQuick Advance results, and to evaluate the potential use of multiple rapid tests in HIV testing algorithms.

### METHODS

The Massachusetts State Laboratory Institute has received serum specimens from publicly-funded counseling and testing sites for confirmation of reactive OraQuick Advance tests since 2004. Frequencies of WB results were tabulated. Selected specimens were retrieved from frozen storage and tested by Clearview HIV 1/2 STAT-PAK, Trinity Uni-Gold Recombigen HIV, and Biorad Multispot HIV 1/2 Rapid Test. Specimens include (1) all available sera identified by the submitting site as having a reactive OraQuick result, with a negative WB (BioRad serum WB), received between January 1, 2004 and October 26, 2007, and (2) a convenience sample of 16 OraQuick reactive follow-up sera with a positive WB result, selected from the same time period.

### RESULTS

Among 596 OraQuick reactive serum specimens received for confirmatory testing, 511 (86%), 49 (8%) and 36 (6%) were positive, negative, and indeterminate on WB, respectively. Of 49 OraQuick-reactive WB-negative sera, 45 (92%) were tested by additional rapid tests. Thirty-seven (76%) were negative by Clearview, Unigold, and Multispot, 3 specimens were reactive by Clearview only, 2 specimens were reactive by Unigold only, 2 specimens were reactive for HIV-1 by Multispot only, and one specimen was reactive by Clearview and Multispot. Of 511 OraQuick-reactive WB-positive sera, 16 (3%) were tested by additional rapid tests. All 16 were reactive by Clearview, Unigold, and Multispot. Assuming all OraQuick reactive follow-up sera positive by WB are reactive on all three rapid tests, then >99.6% of specimens reactive on OraQuick and a second rapid test would confirm positive by WB.

### CONCLUSIONS

Specimens initially reactive by Oraquick and subsequently reactive by Clearview, Unigold, or Multispot are highly likely to confirm positive by WB. No specimens with a reactive Oraquick result and a negative laboratory EIA were positive by WB. Patients with a reactive OraQuick test at point-of-care should be counseled that the likelihood of confirmed HIV infection is 86%. These preliminary findings are limited and must be confirmed by additional study.