RSID©-Blood Does Not Exhibit False Negative Results Due to a High Dose Hook Effect

Problem: Current hemoglobin-based tests for blood exhibit a high dose hook effect (HDHE) that can produce false negative results from forensic samples.

Solution: Produce a confirmatory test for human blood that does not exhibit HDHE and therefore greatly reduce the chances of false negative blood.

Experiment: Compare RSID-Blood side by side with a hemoglobin-based blood detection test.

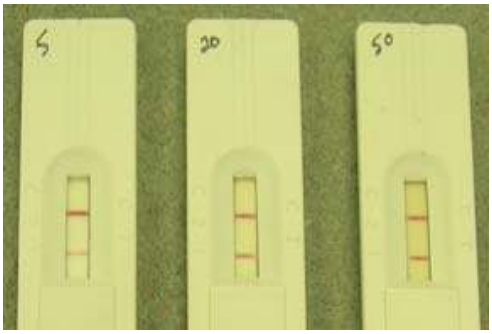
Methods: A standard extract of human blood was prepared and tested on RSID-Blood and on Seratec HemDirect Hemoglobin Assay. Extract was prepared using 50 µl of human blood from a cotton swab, extracted overnight in 1 ml of RSID-Blood Extraction Buffer (equivalent 50 nl of human blood per microliter of extract).

Negative control: Sham extract (sterile swab extracted in 1 ml of RSID-Blood Extraction Buffer) was used as negative control.

Extracts were adjusted to a final volume of 100 µl with RSID-Running buffer.

RSID-Blood

250 nl 1 µl 2.5 µl equivalent volumes human blood



HemDirect

250 nl 1 µl 2.5 µl equivalent volumes human blood

Conclusion: HemDirect Hemoglobin test demonstrates false negative results for samples that are clearly positive when tested with RSID-Blood. Test results for 1 µl and 2. 5 µl of human blood shown.

Experiment: Test RSID-Blood and HemDirect with extract prepared using HemDirect supplied extraction buffer.

Human Blood extract: prepared as above, but using HemDirect supplied extraction buffer

Negative control: Sham extract of unused swab using HemDirect supplied extraction buffer.

Equivalent volumes Human Blood

250 nl **1 µl** **2.50 µl** **5 µl**

RSID-Blood

HemDirect

Conclusion: HemDirect Hemoglobin test demonstrates false negative results for samples that are clearly positive when tested by RSID-Blood. Test results for 1 µl and 2.5 µl and 5 µl of human blood shown.

RSID-Blood does not exhibit a significant high dose Hook effect.

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