

Document Title: Rapid Immunoassay Tests for Human Semen

Controlled: Yes, with red stamp present

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**A. PURPOSE:**

To identify Semenogelin (RSID™-Semen) or p30 (ABAcad®) in Forensic samples.

**B. RESPONSIBILITY:**

Forensic Science Examiners from the Connecticut State Forensic Science Laboratory who have been trained in the discipline of rapid immunoassay tests for human semen according to SOP-FB-31 (Training Manual).

**C. DEFINITIONS:**

1. RSID™: Rapid Stain Identification
2. ABAcad®: Rapid Immunoassay

**D. PROCEDURE:**

RSID™-Semen and/or p30 ABAcad® tests will be performed at the discretion of the examiner based on the submitting agency requests, case information and the condition of the evidence.

1. Materials:
  - a. Extracted samples
  - b. RSID™-Semen test cassettes
  - c. ABAcad® test device and enclosed dropper
  - d. Microcentrifuge tubes
  - e. Spot plates
  - f. Micropipet and tips

2. Procedures:

RSID™-Semen Test

- a. Bring extracted samples to room temperature before use (approximately 10 minutes).
- b. Label RSID™-Semen cassettes with case and item number.
- d. Using a micropipet, add 100µl of extract to well 'S' of the cassette. Note the time immediately after adding the sample.

- D. 2. e. Monitor progress of test results for a 10 minute period. Record final result at 10 minutes. DO NOT record any changes which occur after 10 minutes. Any change in test results after 10 minutes is invalid.

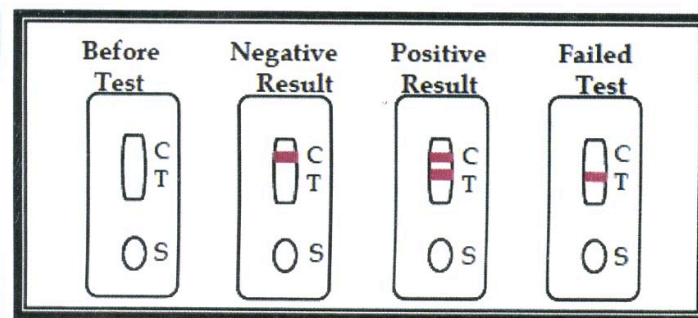
- f. Subsequently, the ABACard® p30 procedure can be run with the remaining extract.

ABACard® p30 Test

- a. Bring extracted samples and test devices to room temperature before use (approximately 10 minutes).
- b. Label ABACard® with case and item numbers.
- c. Using the enclosed dropper, add 6-7 drops (~200µl) of supernatant to well “S” of the test device. Note the time immediately after adding the sample.
- d. Monitor progress of test results for a 10-minute period. Record final result at 10 minutes. DO NOT record any changes which occur after 10 minutes. Any change in test results after 10 minutes is invalid.

3. Results:

RSID™-Semen Test

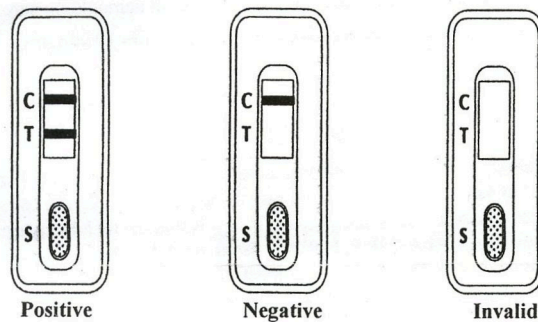


- a. *Negative.* A visible red line at the Control ‘C’ position only, indicates a negative result. *No human semen detected or the sample is below the detectable level.*
    - aa. “High Dose Hook Effect” refers to weak a positive or false negative result seen when very high levels of human semen are present in the sample.
    - bb. In such cases or when a strong Acid Phosphatase reaction is observed, the extract may be diluted 1:20 and rerun with the RSID™-Semen Extraction Buffer or Universal Buffer procedure.
  - b. *Positive.* Visible red lines at both the Control ‘C’ and Test ‘T’ positions indicate a positive result. *Human semen detected.*
- D. 3. c. *Failed(Invalid).* No visible red line at the Control ‘C’ position indicates a failed test. *No conclusion possible.* Review the test procedure carefully and repeat

the test with a new plate.

- d. If a negative result is obtained, the ABACard® p30 procedure below may be used.

ABACard® p30 Test



- a. *Positive.* If there are two pink lines, one each in the test area 'T' and in the control area 'C', the test result is *positive* and indicates that the p30 level is present at or above 4ng/ml.
- b. *Negative.* If there is only one pink line in the control area 'C', the test result is *negative*. This may indicate that no p30 is present, the p30 level is below 4ng/ml or the presence of the "High Dose Hook Effect".
- aa. "High Dose Hook Effect" refers to weak positive or false negative results due to the presence of a high concentration of p30 in the sample.
- bb. In such cases or when a strong Acid Phosphatase reaction is observed, the extract may be diluted 1:20 and rerun with the ABACard® Procedure.
- c. *Invalid.* If there is no pink line visible in the control area 'C', the test is *inconclusive*. Review the test procedure carefully and repeat the test with a new plate.

4. Record the results of the control(s) and sample(s) on the appropriate Quality Record Worksheet.
5. Record test(s) used on the General Reagent Sheet (FBQR-09).

**E. REFERENCES:**

1. Abacus Diagnostics' *OneStep* ABACard® p30 Test For The Forensic Identification of Semen, provided Technical Information and Protocol sheet.
2. Connecticut State Forensic Science Laboratory, ABACard® p30 Internal Validation, 1998.
3. Old, Dr. Jennifer, Schweers, Dr. Brett A., Boonlayangoor, Dr. P. W., Reich, Dr. Karl, Developmental Validation Studies of RSID™-Semen Lateral Flow Immunochromatographic Strip test for the forensic detection of Seminal Fluid, p 1-36.

4. Connecticut State Forensic Science Laboratory, RSID™ - Semen Internal Validation, 2010.
5. Independent Forensics, RSID™ - Universal Buffer Technical Information and Protocol sheet.
6. Connecticut State Forensic Science Laboratory, RSID™ - Universal Buffer Internal Validation, 2011.