
TECHNICAL INFORMATION

RSID™ Bodily Fluid Detection Field Test Kits

Catalog Nos. IDBL100, IDSE200, IDSA300, IDBF400

INTENDED USE

The new RSID (Rapid Stain Identification) tests are used to identify stains as blood, saliva, or semen, to minimize unnecessary sampling for DNA and other forensic evidence. The tests use a buffer and a simple testing cartridge to allow the test to be performed in the field, as easily as it is in the laboratory. Each envelope contains all of the necessary equipment, and provides a backdrop for photographing the results for preservation. The RSID is a significant step above traditional chemical presumptive tests, and puts a powerful tool in the crime scene investigators hands.

PRINCIPLE OF THE RSID™ TEST

The three Rapid Stain Identification (RSID™) products (RSID™-Saliva, RSID™-Semen and RSID™-Blood) are lateral flow immunochromatographic strip tests designed to detect the presence of saliva, semen, or blood. Each lateral flow assay uses two mouse monoclonal antibodies specific for α -amylase, semenogelin, or gly-



cophorin A. For each test, one of the body fluid specific antibodies (Ab1) is conjugated to colloidal gold and is deposited on a conjugate pad beneath the sample window. The other antibody (Ab2) is striped onto the “Test line” on a membrane attached to the conjugate pad. The “Control line” on the membrane consists of anti-mouse IgG antibody and is used as an internal positive control.

After the test liquid is added to the test pad, the antibodies flow towards the control and test lines. If the test is properly performed, the antigen will change the Control line to RED. If the antigen reacts and complexes, the Test line will change to RED, presumptively indicating human blood, saliva, or semen, depending on the test performed. If no antigen complex is present, no color will appear, and the result is negative.

Test Contents (each envelope)

- 1 - Antigen test cassette
- 1 - vial of Universal buffer
- 1 - 3ml vial of distilled water
- 1 - 2 pack of sterile cotton swabs
- 1 - disposable pipette
- 1 - envelope, preprinted for documentation

STRIP TEST ASSAY PROCEDURE

Note: Assays should be performed at room temperature.

1. Add distilled water to a cotton swab.
2. Swab the suspected stain, making contact with all sides of the swab. (For blood and semen, this is best performed on dried stains to increase dilution.)
3. Allow the swab to air dry.
4. Place the swab head in the buffer solution.

5. Wait 10 minutes and remove swab.
6. Open the foil packet and remove cassette.
7. Using the provided pipette, extract 10 microliters from the buffer vial (hold bulb closed, place tip in buffer, release bulb to extract liquid), and place on the sample port of the test cassette.
8. Wait 10 minutes and observe results.

If the result is faint, repeat with a more dilute sample to reduce risk of false results. Do not INCREASE the sampling, because a greater sample may cause false positives due to the high dose hook effect..

SCORING RESULTS

RSID™ products should be evaluated *exactly* 10 minutes after the addition of sample. Fig. 1 illustrates expected results:

- i) A visible red line at the Control (C) position only, indicates a negative result. *No body fluid detected.*
- ii) Visible red lines at both the Control (C) and Test (T) positions indicate a positive result. *Body fluid detected.*
- iii) A visible red line at the Test (T) position only, indicates a failed test. *Test failure, no conclusion possible.*

STABILITY AND STORAGE

RSID™ should be stored at room temperature in the envelope until ready to use. Do not use cassette after the printed expiration date found on the foil pack.

TEST SENSITIVITY

The detection limit for RSID™-Saliva, RSID™-Semen and RSID™-Blood, used as suggested, is still < 1 µL of human body fluid. The limit of detection of RSID™-Blood is slightly increased when testing aged samples due to less efficient extraction from the substrate.

Undiluted body fluids should *not* be used with any RSID™ products, as the viscosity of the sample prevents proper release of the conjugate from the conjugate pad. The tested sample should first be deposited on a sterile cotton swab, air-dried, extracted in RSID™- Universal Buffer, and diluted as needed in RSID™- Universal Buffer before analysis with RSID™ tests.

HIGH DOSE HOOK EFFECT

Under standard laboratory testing, users of RSID™-Semen may observe weak positive or false negative results due to the High Dose Hook Effect, where large levels of antibodies are present, they overwhelm the test causing false results.

RECORDING RESULTS

This section is provided as a convenience and is meant only as a guide to documenting the testing and validation of RSID™-Universal Buffer. All laboratories must follow their own validation and testing protocols.

Once the test is complete, the results should be photographed for preservation. Place the cassette on the envelope, complete the printed form, and photograph. The test will fade over time and should be documented within 60 minutes of performing the test for best results.

